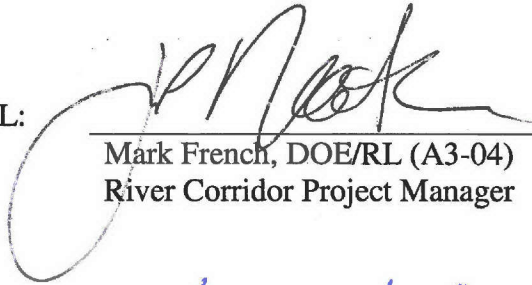


100/300 AREA UNIT MANAGERS MEETING
APPROVAL OF MEETING MINUTES

July 14, 2016

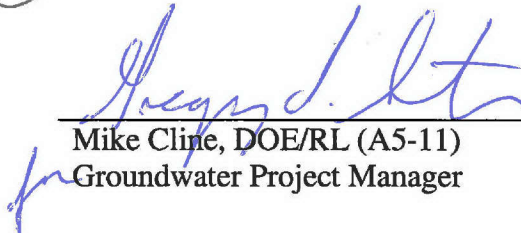
APPROVAL:


Mark French, DOE/RL (A3-04)
River Corridor Project Manager

Date

8/15/16

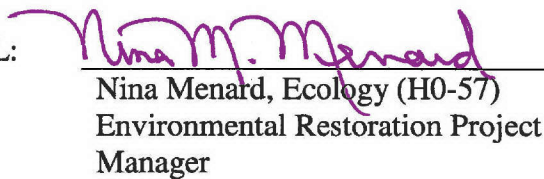
APPROVAL:


Mike Cline, DOE/RL (A5-11)
Groundwater Project Manager

Date

8/11/16

APPROVAL:


Nina Menard, Ecology (H0-57)
Environmental Restoration Project
Manager

Date

8/11/16

APPROVAL:


Laura Buelow or Rod Lobos, EPA (A3-46)
100 Area Project Manager

Date

8/11/16

100 & 300 AREA UNIT MANAGER MEETING MINUTES

Groundwater and Source Operable Units; Facility Deactivation, Decontamination, Decommission, and Demolition (D4); Interim Safe Storage (ISS); Field Remediation (FR); Mission Completion; and 100-K Sludge Treatment Project and 100-K Facility Demolition and Soil Remediation Projects

July 14, 2016

ADMINISTRATIVE

- **Next Unit Manager Meeting (UMM)** – The next meeting will be held August 11, 2016, at Ecology's Office Building, 3100 Port of Benton Blvd, Conference Room 31.
- **Attendees/Delegations** – Attachment A is the list of attendees. Representatives from each agency were present to conduct the business of the UMM.
- **Approval of Minutes** – The June 9, 2016, meeting minutes were approved by the U.S. Environmental Protection Agency (EPA), Washington State Department of Ecology (Ecology), and U.S. Department of Energy, Richland Operations Office (RL).
- **Action Item Status** – The status of action items was reviewed and updates were provided (see Attachment B).
- **Agenda** – Attachment C is the Regular Session meeting agenda.

EXECUTIVE SESSION (Tri-Parties Only)

An Executive Session was not held by RL, EPA, and Ecology prior to the July 14, 2016, UMM.

SEQUESTRATION PRESENTATION

Patrick Baynes presented a status on sequestration at 300-FF-5 (Attachment 1).

100-K AREA (GROUNDWATER, SOILS, D4/ISS)

Attachment 2 provides status and information for groundwater. Attachment 3 provides a status of the 100-K Sludge Treatment Project and the 100-K Facility Demolition and Soil Remediation projects. No issues were identified and no agreements or action items were documented.

100-B/C AREA (GROUNDWATER, SOILS, D4/ISS)

Attachment 2 provides status and information for groundwater. No issues were identified and no agreements or action items were documented.

100-N AREA (GROUNDWATER, SOILS, D4/ISS)

Attachment 2 provides status and information for groundwater. Attachment 4 provides status and information for Washington Closure Hanford (WCH) Closure Operations activities at the 100 Areas, 618-10, and the 300 Area. Attachment 5 provides the Field Remediation schedule for the 100 Areas, 100-IU-2/6, and the 300 Area. No issues were identified and no agreements or action items were documented.

100-D & 100-H AREAS (GROUNDWATER, SOILS, D4/ISS)

Attachment 2 provides status and information for groundwater. Attachment 4 provides status and information for WCH Closure Operations activities at the 100 Areas, 618-10, and the 300 Area. Attachment 5 provides the Field Remediation schedule for the 100 Areas, 100-IU-2/6, and the 300 Area. No issues were identified and no agreements or action items were documented.

100-F & 100-IU-2/100-IU-6 AREAS (GROUNDWATER, SOILS, D4/ISS)

Attachment 2 provides status and information for groundwater. Attachment 4 provides status and information for WCH Closure Operations activities at the 100 Areas, 618-10, and the 300 Area. Attachment 5 provides the Field Remediation schedule for the 100 Areas, 100-IU-2/6, and the 300 Area. No issues were identified and no agreements or action items were documented.

300 AREA – 618-10/11 (GROUNDWATER, SOILS)

Attachment 4 provides status and information for WCH Closure Operations activities at the 100 Areas, 618-10, and the 300 Area. No issues were identified and no agreements or action items were documented.

300 AREA - GENERAL (GROUNDWATER, SOILS, D4/ISS)

Attachment 2 provides status and information for groundwater. Attachment 4 provides the 100 Areas, 618-10, and the 300 Area. Attachment 5 provides the Field Remediation schedule for the 100 Areas, 100-IU-2/6, and the 300 Area. No issues were identified and no action items were documented.

Agreement 1: Attachment 6 is DOE's and EPA's approval to transport gravel from the Container Transfer Area (CTA) at the north end of Pit 6 to the Environmental Restoration Disposal Facility (ERDF) for re-use there.

Agreement 2: Attachment 7 is DOE's and EPA's approval to transport gravel from the CTA at the north end of waste site 300-188:2 (Pit 6) to the ERDF for re-use there as needed.

ORCHARD LANDS

The RI Work Plan was approved DOE/EPA/Ecology. Field sampling will be completed in July.

CERCLA FIVE YEAR REVIEW

Greg Berlin reported that Robin Varljen is the lead for Ecology and Dennis Faulk is the lead for EPA. The draft should be available for review by the regulators in early October.

OTHER



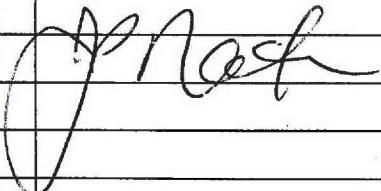
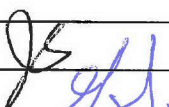
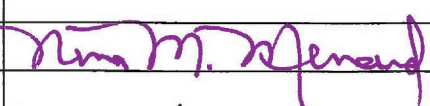
Karl Hadley reported that with WCH transferring its projects to CHPRC in August, vacating the second floor of the Fermi Building, and ending its contract in September, it would be an opportune time to turn management of the UMM over to Bill Faught of CHPRC and to meet at another location. Nina Menard volunteered to find out if a conference room at Ecology's office building could be scheduled for future meetings. A discussion will ensue at the August UMM as to whether to continue monthly UMMs or to shift to a different schedule.

Attachment A

100/300 AREA UNIT MANAGER MEETING

ATTENDANCE

July 14, 2016

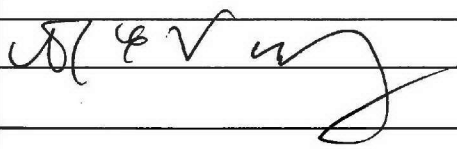

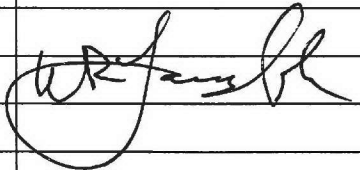


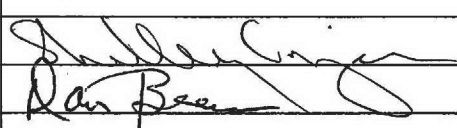
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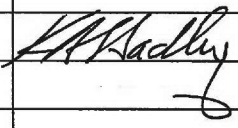

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Attachment B

100/300 Area UMM

Action List

July 14, 2016

Open (O)/ Closed (X)	Action No.	Co.	Actionee	Project	Action Description	Status
O	100-203	RL	Greg Sinton	S&GW	Provide a status on SGW-59118, "Technical Basis for field-Filtering Groundwater Samples for Hexavalent Chromium Analysis," at the June 2016 Unit Managers Meeting	Open: 5/12/16; Action: Closed 7/14/16
O	300-010	RL	John Sands	S&GW	Provide a presentation on sequestration at the July Unit Managers Meeting	Open: 5/12/16; Action: Closed 7/14/16

Attachment C

100/300 Area Unit Manager Meeting
July 14, 2016
Washington Closure Hanford Building
2620 Fermi Avenue, Richland, WA 99354
Room C209; 2:00 p.m.

Administrative:

- Approval and signing of previous meeting minutes
- Update to Action Items List
- Next UMM (8/11/2016, Room C209)

Open Session: Project Area Updates - Groundwater, Field Remediation, D4/ISS:

- Sequestration Presentation (John Sands)
- 100-K Area (Ellwood Glossbrenner, Roger Quintero)
- 100-B/C Area (Greg Sinton)
- 100-N Area (Greg Sinton, John Neath)
- 100-D & 100-H Areas (Ellen Dagan, John Neath)
- 100-F & 100-IU-2/6 Areas (Greg Sinton, John Neath)
- 300 Area - 618-10/11 exclusively (Jamie Zeisloft)
- 300 Area (John Sands/Rudy Guercia)
- Orchard Lands (John Sands)

Special Topics/Other

- CERCLA Five Year Review

Adjourn

Attachment 1



300-FF-5

July 14, 2016



SGW-60008-VA, Rev. 0



U.S. DEPARTMENT OF
ENERGY

300-FF-5 Stage A General Location

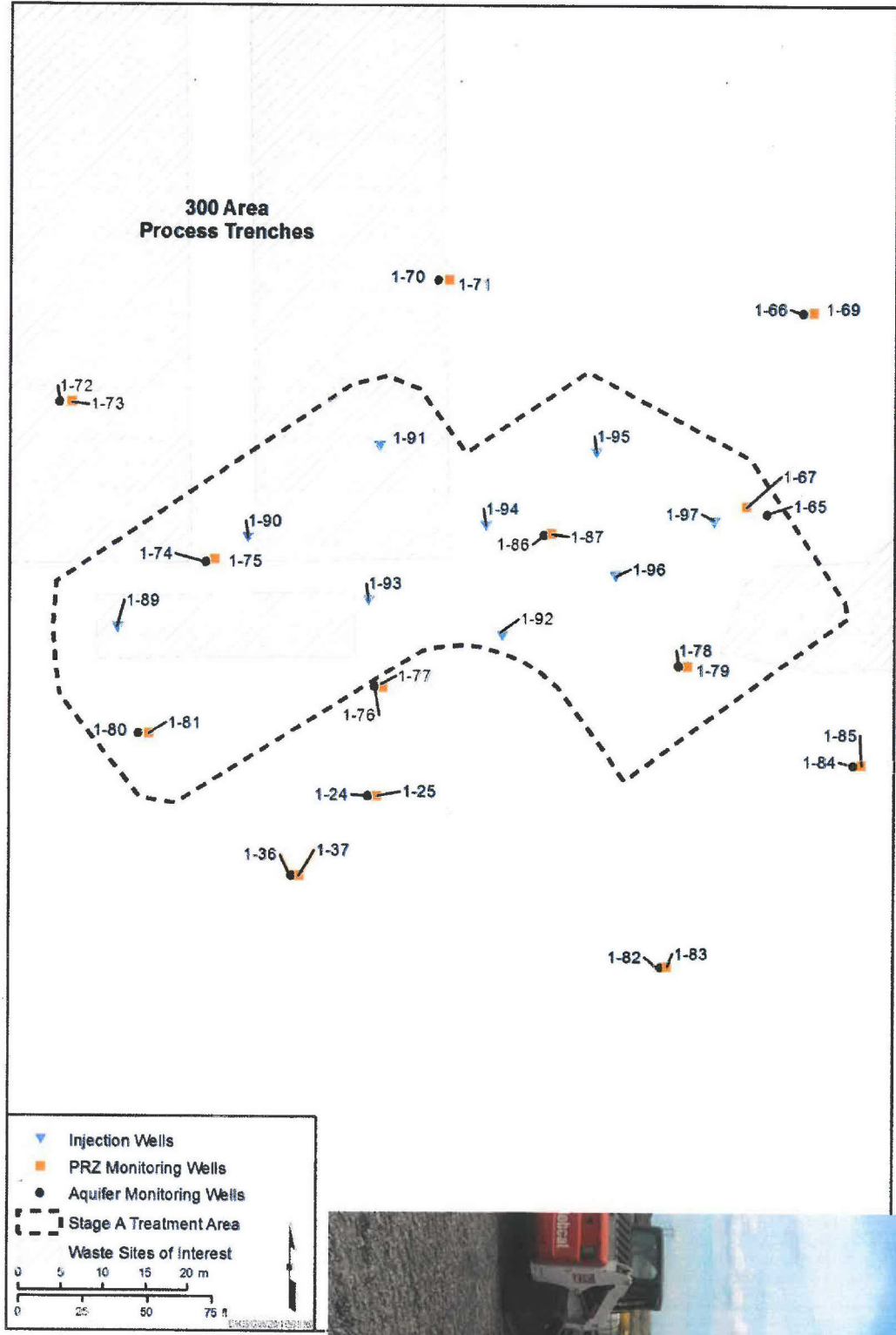


- Infiltration and injection of phosphate solutions into the vadose zone, PRZ, and groundwater will form insoluble minerals that bind mobile uranium.
- Uranium sequestration will occur in two sequential stages, Stage A and Stage B.
- Stage A was implemented in a 0.75 acre area of high residual uranium contamination.
- Stage B will address the remaining 2.25 acres and is still in the planning phase.

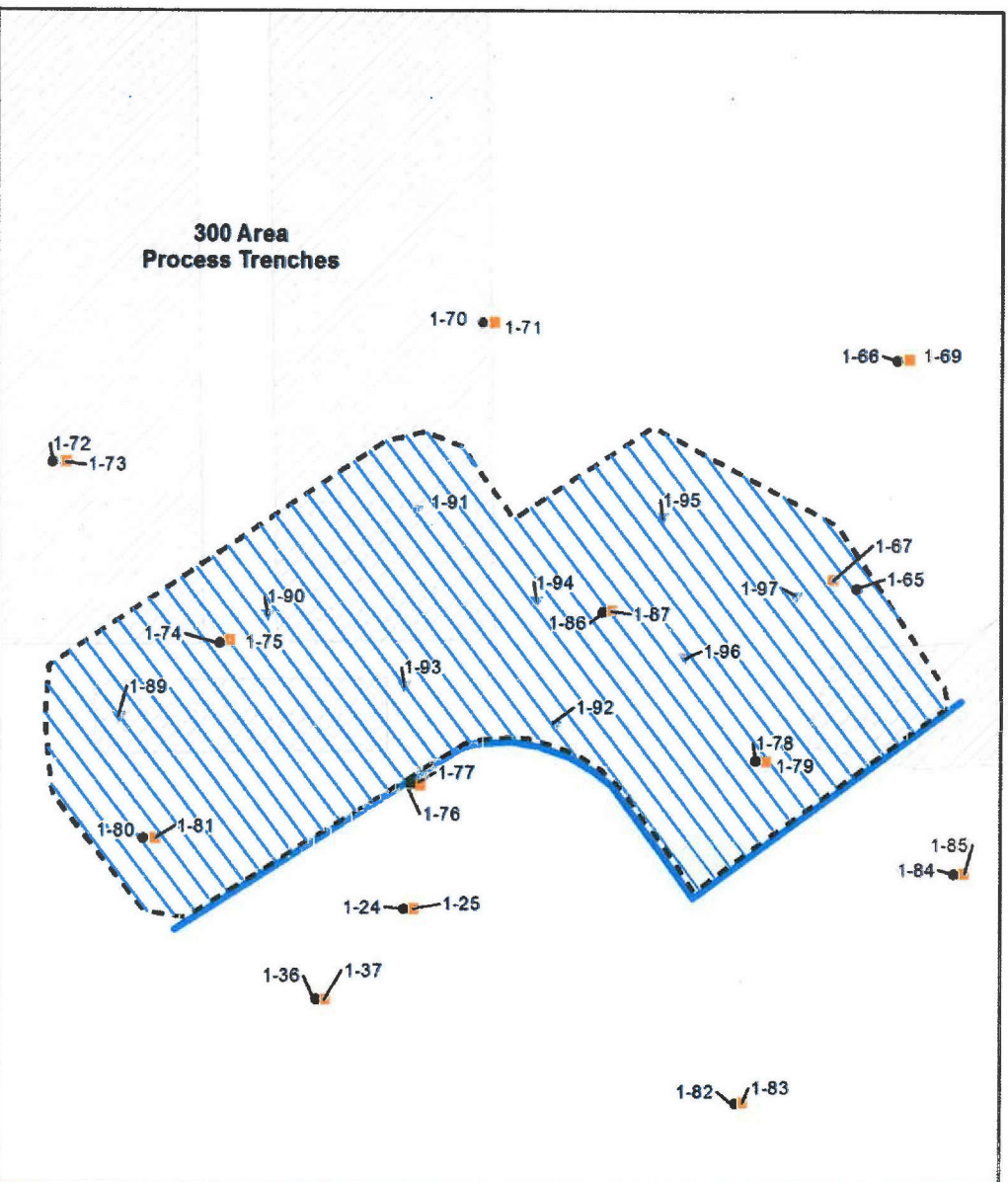
300-FF-5 Aerial Photograph



300-FF-5 – Injection and Monitoring Wells



300-FF-5 – Infiltration System



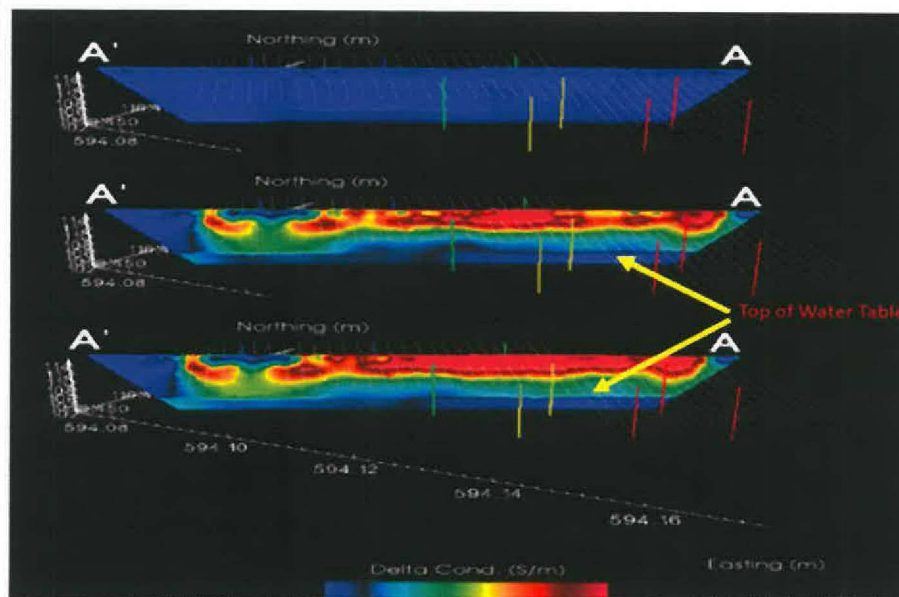
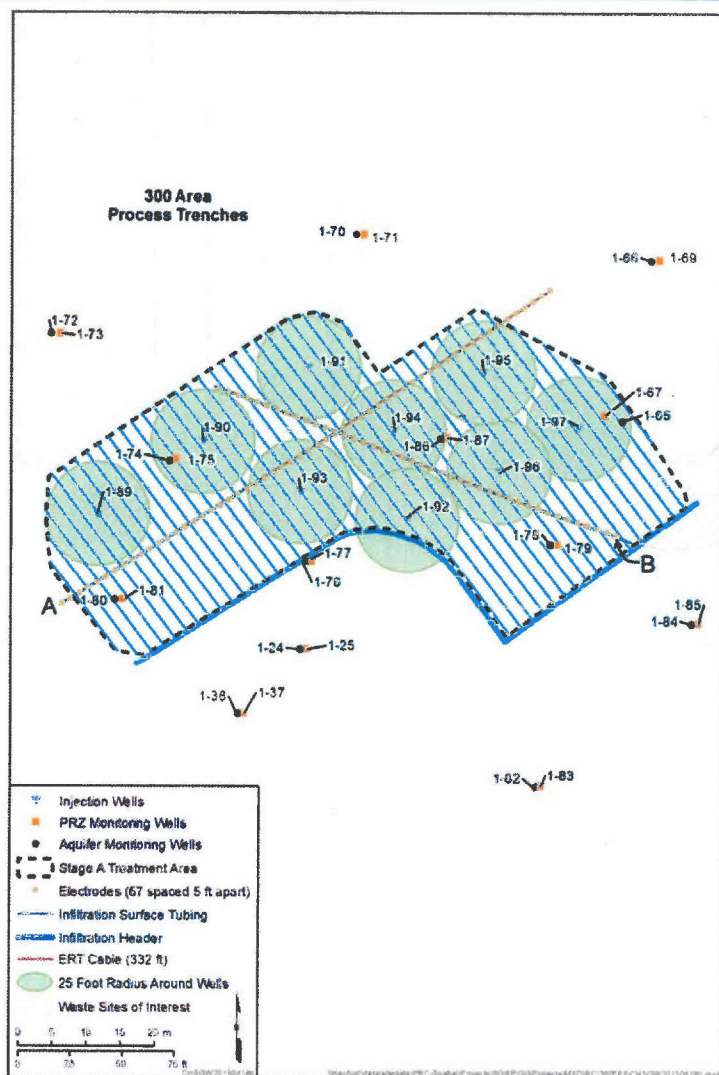
300-FF-5 – Mixing Skids and River Pumps



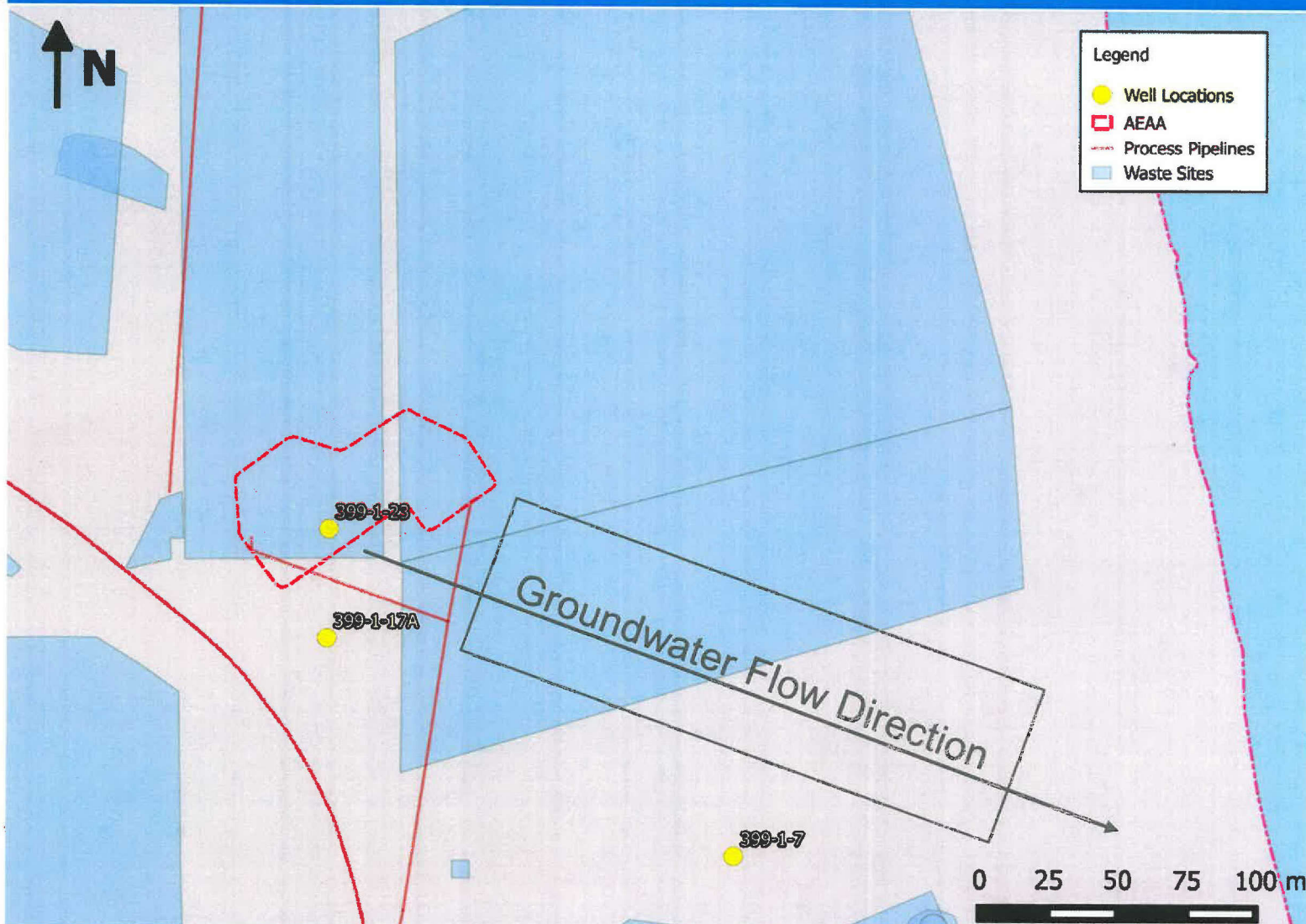
300-FF-5 – Chemical Tanks



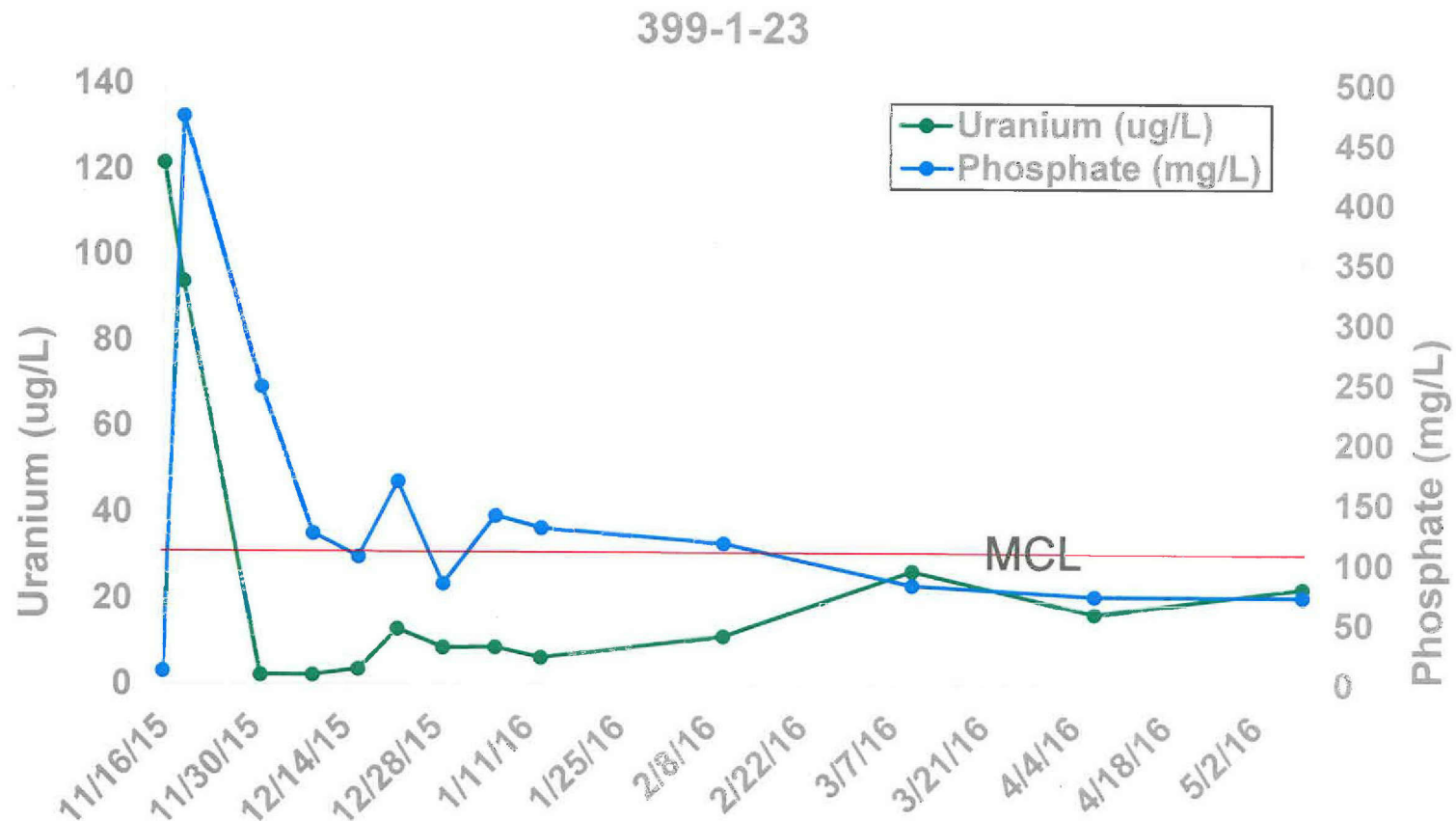
300-FF-5 – Electrical Resistivity Tomography



300-FF-5 Uranium Sequestration Stage A Performance

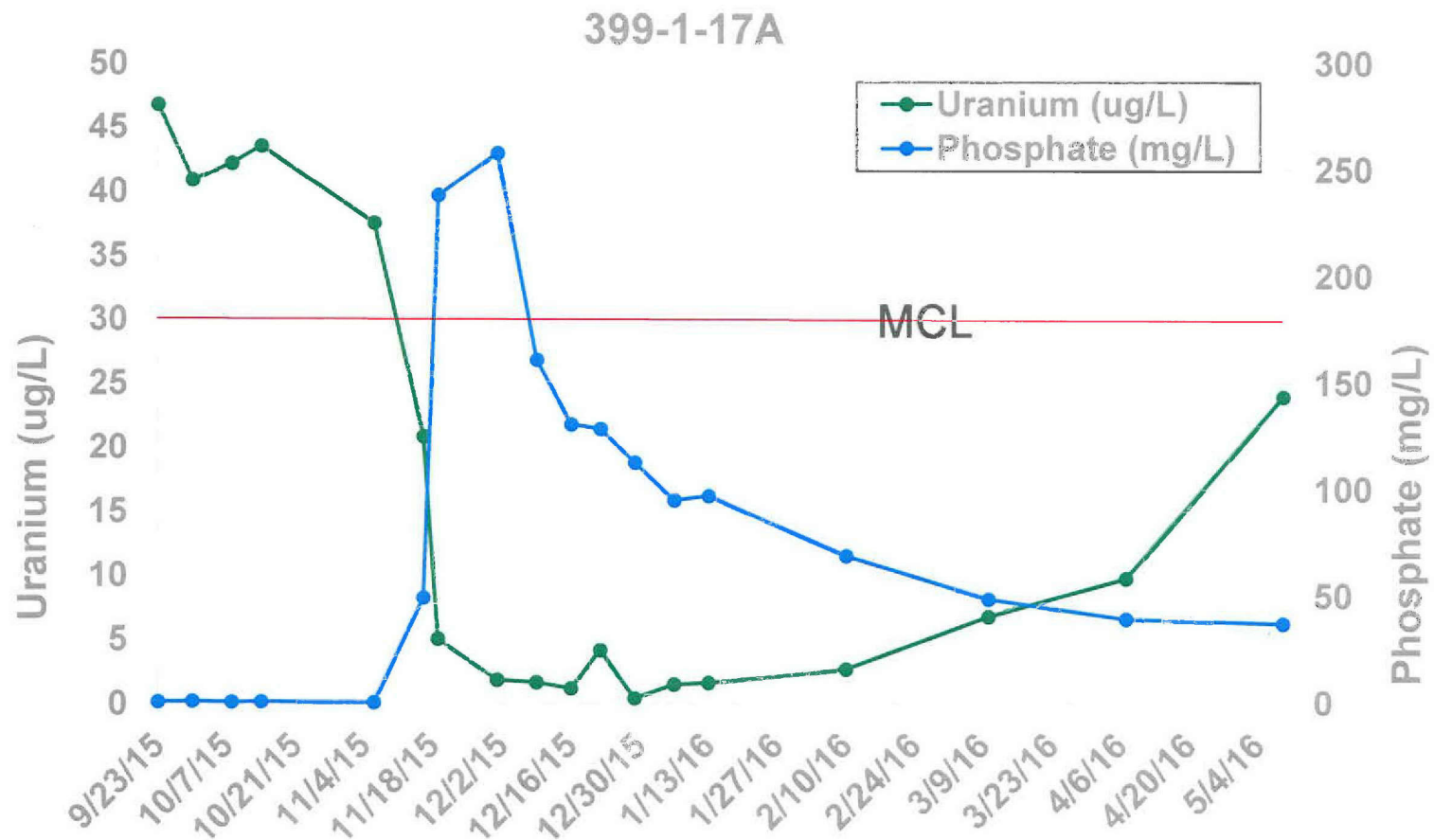


300-FF-5 Uranium Sequestration Stage A Performance (Preliminary Results)



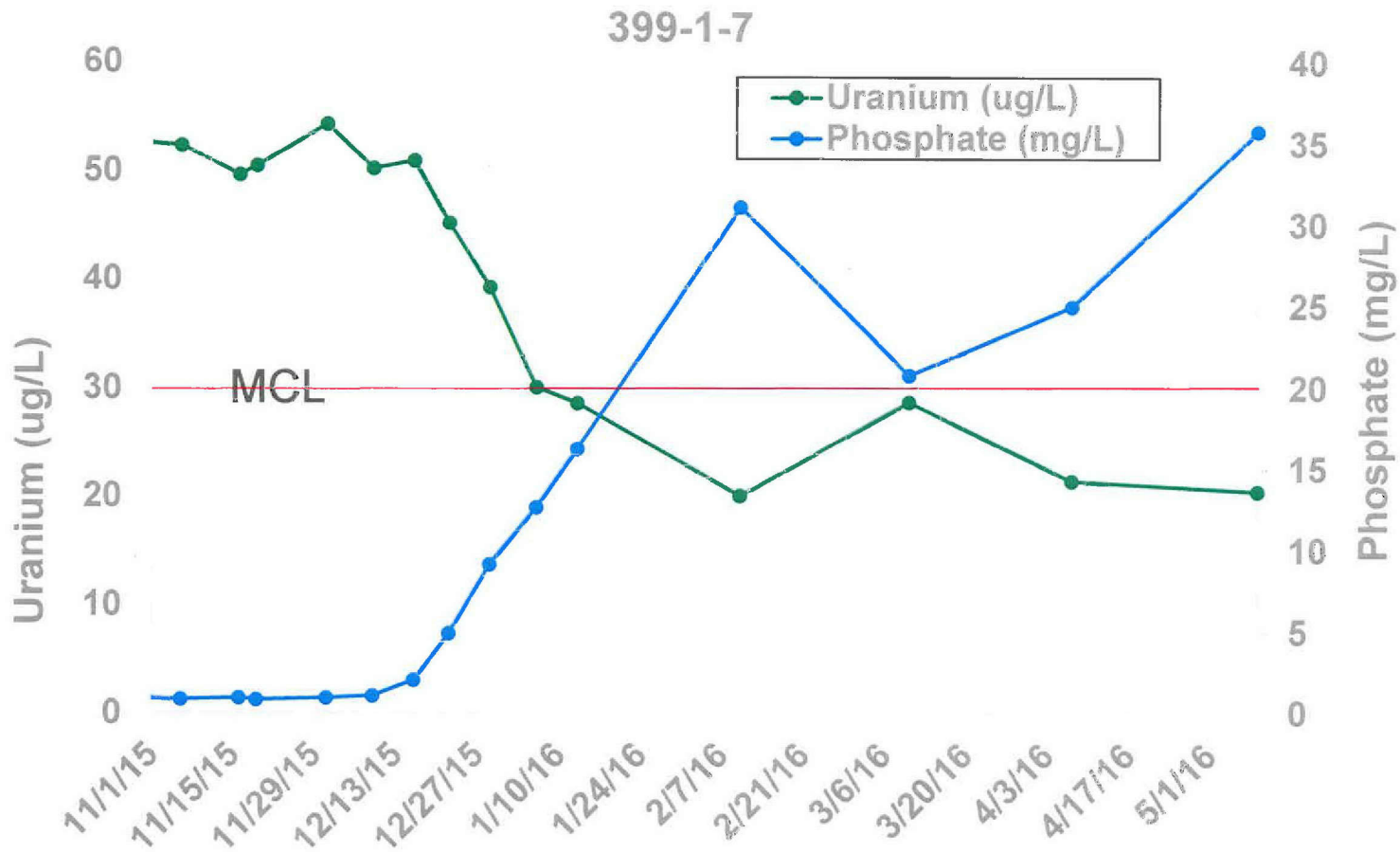
- Groundwater Wells Outside Stage A EAA with long-term monitoring records show decline in Uranium concentrations. The uranium concentrations remain lower following the Stage A remedy.

300-FF-5 Uranium Sequestration Stage A Performance (Preliminary Results)



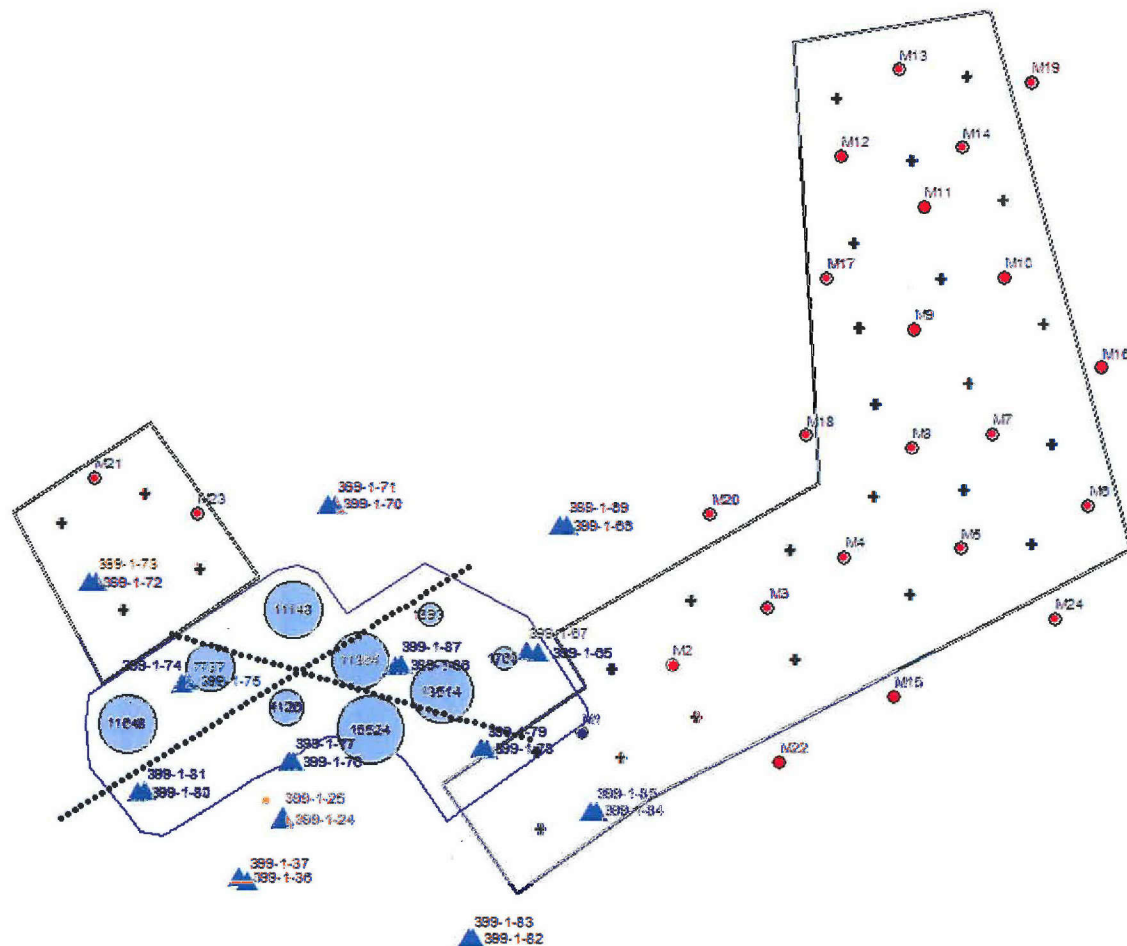
- Note the decline in uranium concentrations with corresponding increase in phosphate concentrations.

300-FF-5 Uranium Sequestration Stage A Performance (Preliminary Results)



- Uranium concentrations remained below MCL during the observation time period following the Stage A infiltration/injection.

300-FF-5 – Stage B (NOTIONAL)



Attachment 2

100/300 Areas Unit Managers Meeting
July 14, 2016 (June data)

Summary Hanford Sampling Program

Hanford's overall Site groundwater monitoring program, managed by CHPRC, coordinates collection of groundwater and surface water samples from wells, aquifer tubes, and springs. Sample trips are scheduled by target month and prioritized based on project needs. Target sample dates are chosen to minimize the number of sample trips by temporally aligning requests from multiple activities for a single location into a single trip.

Sample Trip Status by Month Scheduled

For Fiscal Year 2016, Hanford's overall Site groundwater monitoring program has 2,914. The number of sample trips varies by month depending on project needs and, by example, the number of trips in May 2016 was 2,982. To date for 2016, DOE has successfully completed 2,155 trips. During June 2016, 238 sample trips were successfully collected. The specific wells, aquifer tubes, and springs sampled in the river corridor areas during June 2016 are listed in Table 1.

Awaiting Sample Trips

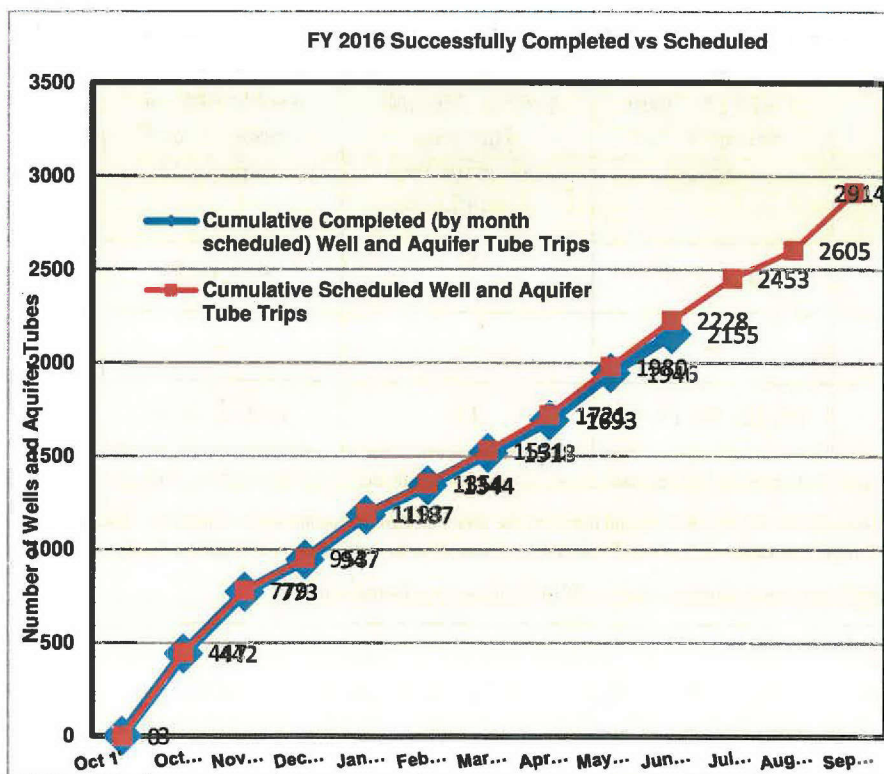
There are 79 sample trips that are awaiting collection at the end of June. Of these, 1 well is being decommissioned, 12 require maintenance, 8 have access restrictions, 3 are not on the Well Access List (WAL), 2 are pump-and-treat wells that are not operating, 5 trips have been canceled from prior months delays, 2 are being reviewed for cancellation, 3 were unsuccessful on the first attempt, 10 are associated with a special study and have an adjusted schedule, and 33 were awaiting collection at the month end. Table 2 presents the sample trips for only the river corridor that were not successfully completed in June. Sample trips in the table are grouped by month scheduled and groundwater interest area.

Upcoming Sample Trips

Sample trips for the river corridor scheduled for collection in July 2016 are listed in Table 3.

Data Access

The sampling results are available in HEIS and can be accessed from the Environmental Dashboard Application which can be accessed from the HLAN at <https://ehs.chprc.rl.gov/eda/> or from the internet at <https://ehs.hanford.gov/eda/>.



100/300 Areas Unit Managers Meeting
July 14, 2016 (June data)

Operable Unit Specifics

100-KR-4 Groundwater Operable Unit (Mike Drewett/Chuck Miller/Jason Hulstrom)

- CERCLA Process Implementation:
 - ✓ The RI/FS and PP documents are on hold pending 100-K East Reactor waste site characterization and modeling based on the data from new wells 199-K-221 and 199-K-222. The draft report is currently being reviewed by CHPRC staff.
 - ✓ Monitoring Plans: The Draft B Interim Groundwater Monitoring Plan, Draft C Interim O&M Plan and Draft B Interim RD/RAWP were provided to DOE-RL for submittal to EPA on June 29, 2016.
 - ✓ The 100-KW rebound study sampling and analysis plan was approved and finalized in May and the KW pump and treat system was shut down on May 16, 2016. Extraction, injection, and monitoring wells were reconfigured to support the rebound study monitoring activities. Sample collection from wells in the central plume area (down gradient of 183-KW Head House) began the first week of June and will continue through September.
- Remedial Actions & System Modifications:
 - ✓ The volume of groundwater treated and mass of Cr(VI) removed for the 100-K P&T systems (**KX, KR-4, and KW**) during June 2016 are:
 - Treated 46.7 million gallons (58.4 in May)
 - Removed 2.2 kg of hexavalent chromium (2.7 kg in May)
 - ✓ The influent and effluent Cr(VI) concentrations (measured weekly) for the three K systems during June are presented in Table K-1.

Table K-1. Monthly Summary of Influent and Effluent Concentrations at the 100-KR-4 P&T Systems

System	Weekly Influent Concentrations ^a (µg/L)	Average Monthly Influent Concentration (µg/L)	Weekly Effluent Concentrations ^{ab} (µg/L)	Average Monthly Effluent Concentration ^b (µg/L)
100-KR4	6, 7, 7, 8	7	0, 1, 0, 1	0.5
100-KW ^c	--	--	--	--
100-KX	15, 16, 14, 15, 16	15	1, 0, 2, -1, 0	0

- a. Concentrations provided represent samples taken during the current month and loaded into HEIS as of the publication of the UMM.
- b. Concentrations reported are below detection and represent the actual instrument reading on the sample(s). The detection limit is approximately 2 µg/L hexavalent chromium. The readings indicate that the measured concentration is indistinguishable from the blank.
- c. The 100-KW P&T System was shutdown May 16, 2016 to initiate the rebound study.

100/300 Areas Unit Managers Meeting

July 14, 2016 (June data)

- ✓ FY 2016 (Oct. 2015 through June 2016) P&T performance to date:

P&T System	Treated (mgal)	Removed (kg)
KR-4	119.6	2.6
KW	107.2	5.5
KX	324.6	19.4
100-KR-4 OU TOTAL	551	27.5

- ✓ In June 2016, the 30-day average pumping rates were 238 gpm, 0 gpm, and 849 gpm for the KR-4, KW, and KX systems, respectively. A summary of the number of extraction and injection wells in the three systems is shown in Table K-2. Figure K-1 illustrates the monthly average pumping rates for operating extraction wells across the 100-KR-4 system.

Table K-2. Summary of Number of System Extraction and Injection Wells

Note: KW system off for entire month of June

Wells	KR4		KX		KW		TOTAL	
	2015	2016	2015	2016	2015	2016	2016	Current
Number of extraction wells	12	12	19	19	11	11 (off)	42	42
Number of injection wells	5	5	9	9	4	4 (off)	18	18

- At KR-4, the system experienced an unplanned maintenance outage during June that lasted 4-days. This was caused by a pipe leak resulted in shutdown for repairs and to dry-out the control system. In addition, two wells were out of service for 3-weeks of maintenance. With the exception of 199-K-144, hexavalent chromium concentration in extracted groundwater continued to be below the site target concentration and the cumulative hexavalent chromium removal continues to decline. The system remains in service to provide hydraulic capture of inland groundwater.
- At KW, the system has been out of service since May 16, 2016 when it was shut down for the hexavalent chromium rebound study. The first round of measurement data is being evaluated at this time.
- At KX, the system operated at near-full capacity for the month of June with the exception of four extraction wells that were off-line for less than 1-day each for maintenance. At the end of June, 5 of 19 extraction wells exhibited hexavalent chromium concentrations that exceed 20 µg/L. These were wells 199-K-141, 199-K-152, 199-K-154, 199-K-182, and 199-K-210.
- ✓ Figures K-2 through K-4 present the June groundwater treatment rates and hexavalent chromium removal information. As indicated in the figures, Cr(VI) monthly mass removal at KR-4 and KX have decreased in recent months due to continued optimization efforts.
- ✓ Assessment of soil and groundwater characterization data from boreholes in the vicinity of 105-KE Reactor continues. Internal review of the draft characterization report has been completed. We expect a review draft to be sent to RL in August.

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July 14, 2016 (June data)

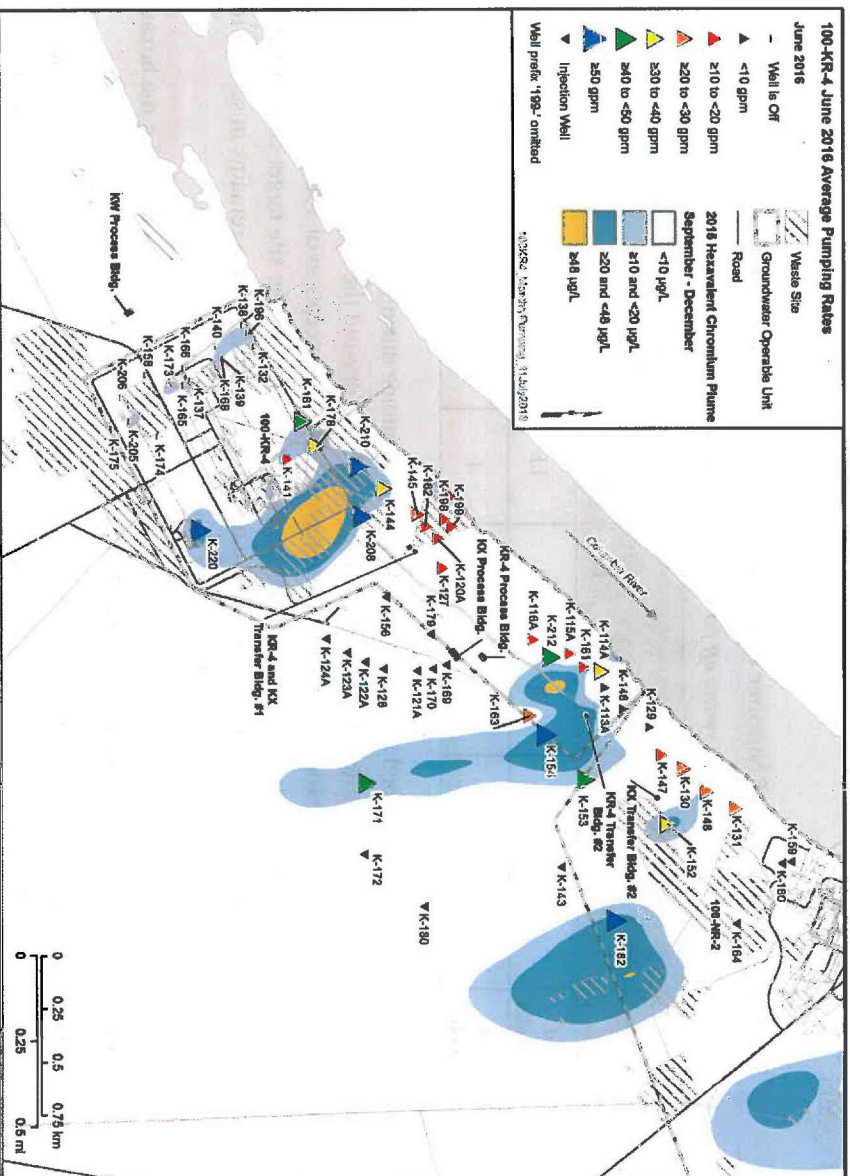


Figure K-1. June 2016 Average Pumping Rates for the 100-KR-4 P&T System

100/300 Areas Unit Managers Meeting

July 14, 2016 (June data)

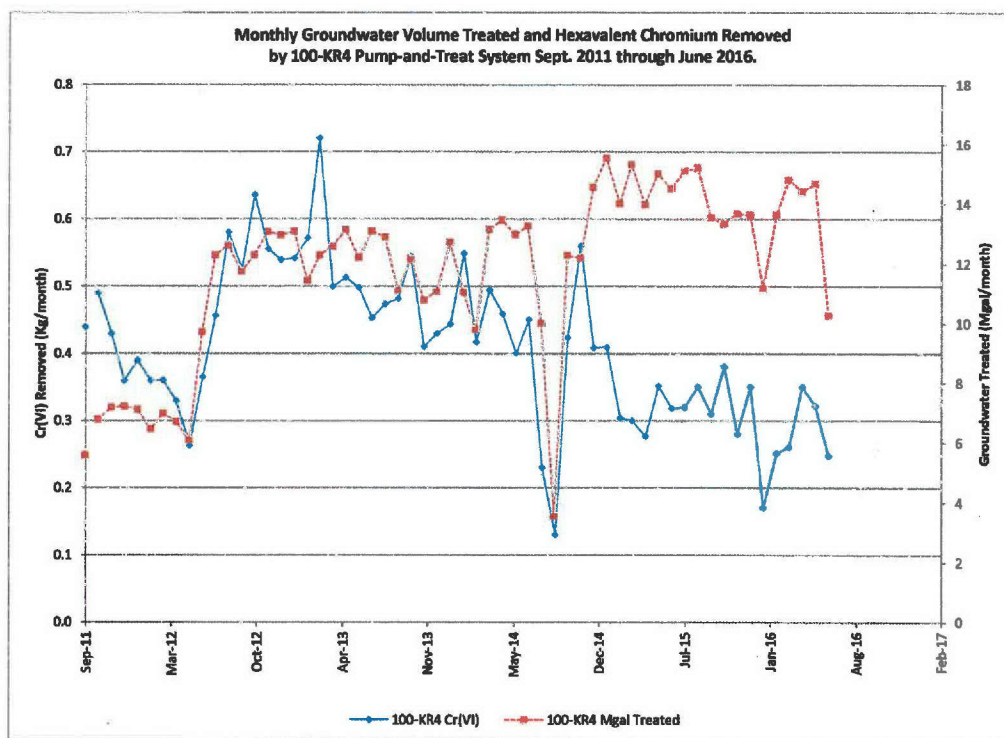


Figure K-2. Monthly Cr(VI) Removed and Groundwater Volume Treated by 100-KR-4 Pump-and-Treat, September 2011 through June 2016.

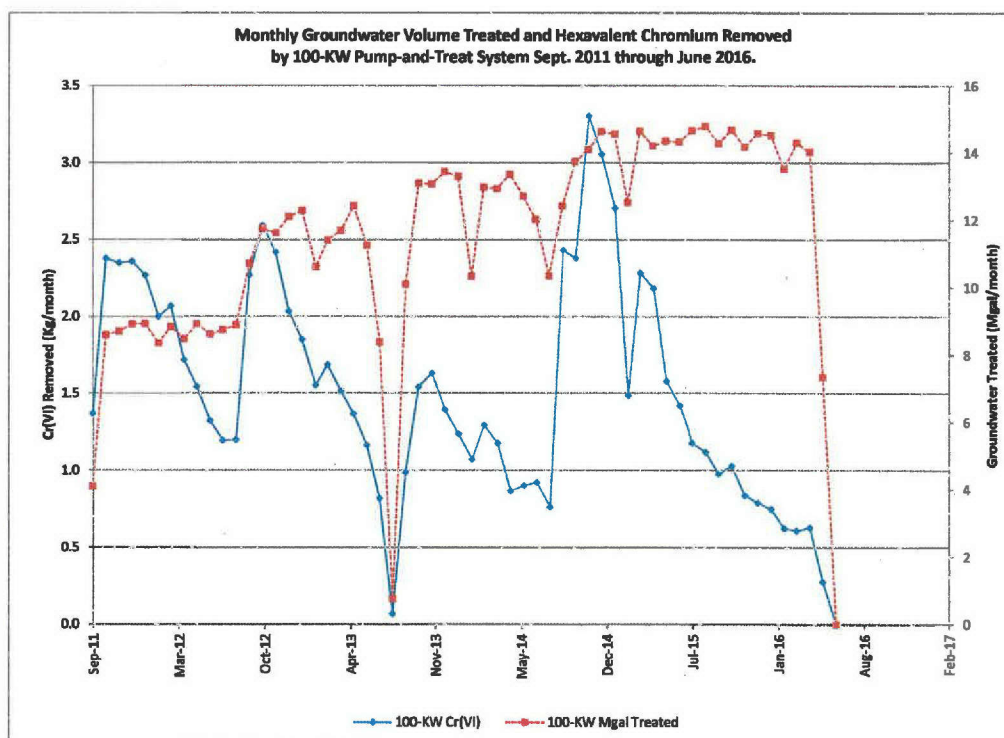


Figure K-3. Monthly Cr(VI) Removed and Groundwater Volume Treated by 100-KW Pump-and-Treat, September 2011 through June 2016.

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July 14, 2016 (June data)

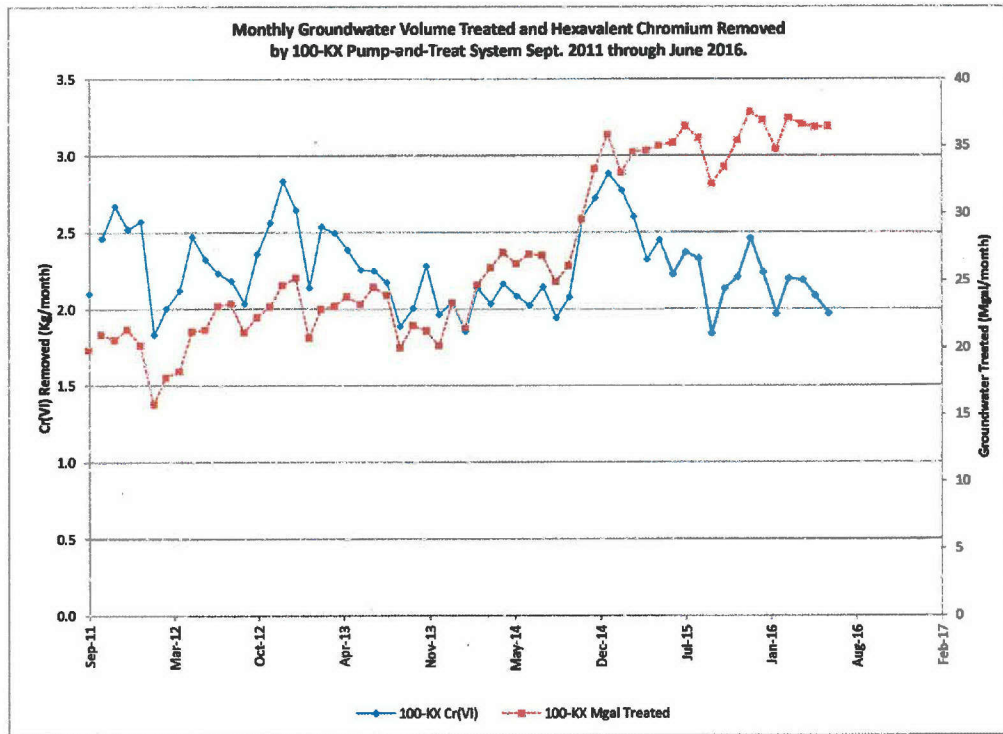


Figure K-4. Monthly Cr(VI) removed and groundwater volume treated by 100-KX pump-and-treat, September 2011 through June 2016.

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July 14, 2016 (June data)

100-BC-5 Groundwater Operable Unit – Robert Evans/Mary Hartman

- Milestone M-015-79: Due 12/15/2016 for the CERCLA RI/FS Report and Proposed Plan for the 100-BC-1, 100-BC-2 and 100-BC-5 Operable Units
- CERCLA Process Implementation:
 - ✓ Completed Decisional Draft RI/FS Report. The report was submitted to RL for 30-day review on June 6, 2016.
 - ✓ The Decisional Draft Proposed Plan will be submitted to RL for review in mid-to-late July 2016.
- Monitoring & Reporting:
 - ✓ Staff are updating a TPA change notice for the groundwater SAP (DOE/RL-2003-38, Rev. 2) to add chloroform and trichloroethene for wells screened in the lower part of the unconfined aquifer. This sampling will begin with the fall 2016 event. The RI recently identified these VOCs as COPCs in three of the deep wells. The change notice will be revised to incorporate internal review comments and is anticipated to be sent to RL for review by the end of July.
 - ✓ Six monitoring wells were sampled in June, as planned. Data are pending.

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July 14, 2016 (June data)

100-NR-1/100-NR-2 Operable Unit – Bill Faught/Virginia Rohay/Art Lee

- CERCLA Process Implementation

- ✓ The revised RI sections/chapters of the RI/FS Report are being submitted to DOE-RL for their draft final review. There are several unresolved comments in the document (Chapter 4, 5, 6 and 7) that will continue to be addressed by Ecology and DOE-RL over the coming months.
- ✓ Drilling continued on the 6 new wells being installed at 100-N (see Figure NR-1). Drilling has been completed on wells 199-N-371, 199-N-372, and 199-N-373. Drilling initiated for well 199-N-374 on June 29, 2016. Well construction for 199-N-371 completed on June 28, 2016. Well construction of 199-N-372 and 199-N-373 is pending based on drilling rig available and progress on remaining wells. Soil and groundwater analyses are being performed on collected samples and the analytical results are beginning to arrive. To date, results from samples collected from wells 199-N-371 and 199-N-373 (behind the reactor) are not at levels indicating source of high tritium and strontium that would be attributable to the high aquifer tube results in AT's C7934, C7935, and C7936.
- ✓ Authorization to start work on D&D activities for the P&T system was received July 12, 2016. The field work is expected start in the coming weeks.
- ✓ Revision 2 of DOE/RL-2001-27, *Remedial Design/Remedial Action Work Plan for the 100-NR-2 Operable Unit*, and the sampling and analysis plan (Appendix A) was cleared and is being prepared for formal transmittal to Ecology.

- Remedial Actions

100-NR-1 Bioventing –

- ✓ Figure NR-2 presents bioventing well gas sample results for monitoring wells 199-N-171 and 199-N-169. Monthly vapor sample measurements were collected on June 20, 2016 prior to start of respirometry test. Vapor samples indicate continued TPH bioremediation occurring in the vicinity of well 199-N-171, but not at well 199-N-169. The high river respirometry test started on June 20, 2016
- ✓ The draft of the annual bioventing performance report covering the time period from March 2015 through February 2016 is being reviewed by DOE-RL. The draft report includes results from the semi-annual respirometry tests conducted during this period.

Product Recovery –

- ✓ Change-out of the sponge assembly in well 199-N-18 was completed on June 15. A total of 150 g of TPH was removed from groundwater. Assuming that the TPH is diesel, with a density of 0.85 g/mL, 0.18 L of diesel was removed. The sponges were left in place for an extended period (4 months) to evaluate if additional product can be removed with longer absorption time. No additional mass was removed in comparison to the 2 month change-out period. Other options for materials and timeframes are being explored with the vendor and DOE-RL.

Aquifer Tubes –

- ✓ Tubes C7934, C7935, and C7936 are located adjacent to one another (Figure NR-3), with screens at depths of 14.41 ft. (C7934), 18.75 ft. (C7935), and 29.19 ft. (C7936). All three aquifer tubes were sampled on April 26, 2016, May 23, 2016, and June 24, 2016. Tritium and strontium-90 concentration trends for aquifer tubes C7934 and C7936 through April 26, 2016, and for aquifer tube C7935 through May 23, 2016, are shown in Figures NR-4 and NR-5, respectively. As of July 8, 2016, completion of the laboratory analysis for the May samples for aquifer tubes C7934 and C7936 and for the June samples for all three aquifer tubes are still pending.

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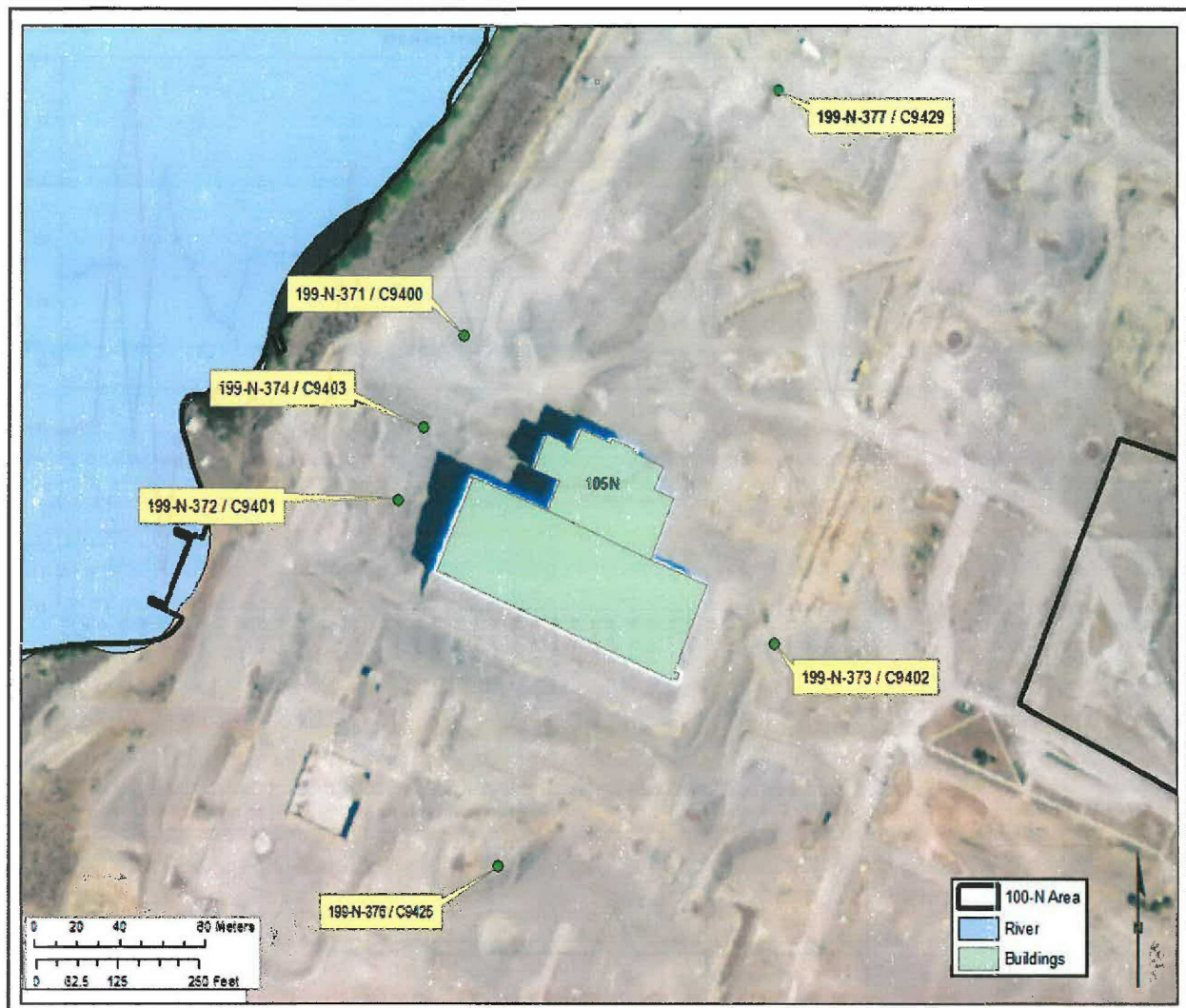
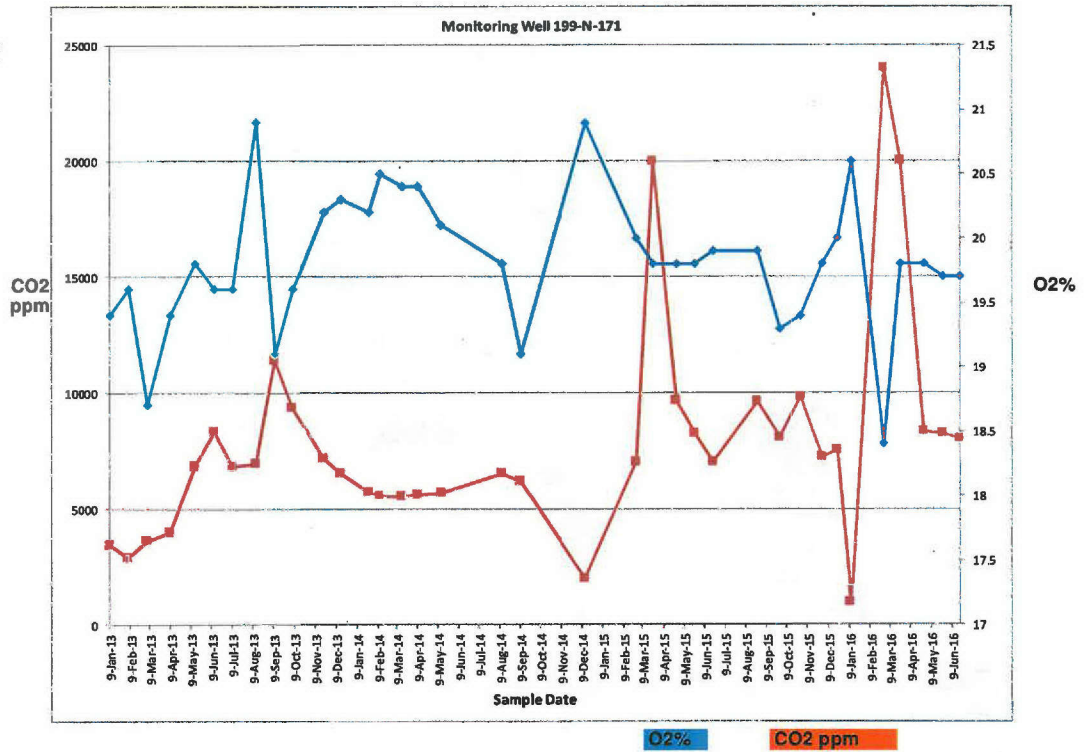


Figure NR-1. Location of Six New Wells in the 100-N Area

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July 14, 2016 (June data)

Well 199-N-171			
Well #	Date	O2%	CO2 ppm
199-N-171	9-Jan-13	19.4	3400
	5-Feb-13	19.6	2840
	6-Mar-13	18.7	3570
	8-Apr-13	19.4	3960
	15-May-13	19.8	6820
	12-Jun-13	19.6	8290
	10-Jul-13	19.6	6800
	14-Aug-13	20.9	6940
	11-Sep-13	19.1	11400
	8-Oct-13	19.6	9380
	21-Nov-13	20.2	7160
	16-Dec-13	20.3	6520
	27-Jan-14	20.2	5720
	11-Feb-14	20.5	5520
	17-Mar-14	20.4	5520
	9-Apr-14	20.4	5560
	14-May-14	20.1	5670
	13-Aug-14	19.8	6520
	10-Sep-14	19.1	6180
	15-Dec-14	20.9	2000
	1-Mar-15	20	7020
	25-Mar-15	19.8	20000
	29-Apr-15	19.8	9650
	26-May-15	19.8	8260
	22-Jun-15	19.9	7000
	27-Aug-15	19.9	9620
	30-Sep-15	19.3	8070
	29-Oct-15	19.4	9770
	30-Nov-15	19.8	7200
	22-Dec-15	20	7510
	11-Jan-16	20.6	1000
	29-Feb-16	18.4	24000
	25-Mar-16	19.8	20000
	28-Apr-16	19.8	8290
	26-May-16	19.7	8220
	20-Jun-16	19.7	8000



Well 199-N-169			
Well #	Date	O2%	CO2 ppm
199-N-169	9-Jan-13	20.9	0
	5-Feb-13	20.9	0
	6-Mar-13	20.9	0
	8-Apr-13	20.9	0
	15-May-13	20.9	800
	12-Jun-13	20.9	780
	#1 10-Jul-13	20.5	1020
	#2 10-Jul-13	20.9	920
	14-Aug-13	20.9	530
	11-Sep-13	20.9	1250
	8-Oct-13	20.9	550
	21-Nov-13	21.3	600
	16-Dec-13	20.9	530
	27-Jan-14	20.9	500
	11-Feb-14	20.9	550
	17-Mar-14	20.9	470
	9-Apr-14	20.9	660
	14-May-14	20.9	840
	13-Aug-14	20.9	520
	10-Sep-14	20.9	410
	15-Dec-14	21	100
	1-Mar-15	20.9	360
	25-Mar-15	20.9	325
	29-Apr-15	20.9	410
	26-May-15	20.9	460
	22-Jun-15	21	0
	27-Aug-15	21.4	330
	30-Sep-15	20.9	530
	29-Oct-15	20.9	360
	30-Nov-15	20.9	460
	22-Dec-15	20.9	490
	11-Jan-16	20.9	0
	29-Feb-16	20.9	520
	25-Mar-16	20.9	15.6
	28-Apr-16	20.9	520
	26-May-16	20.9	550
	20-Jun-16	21	0

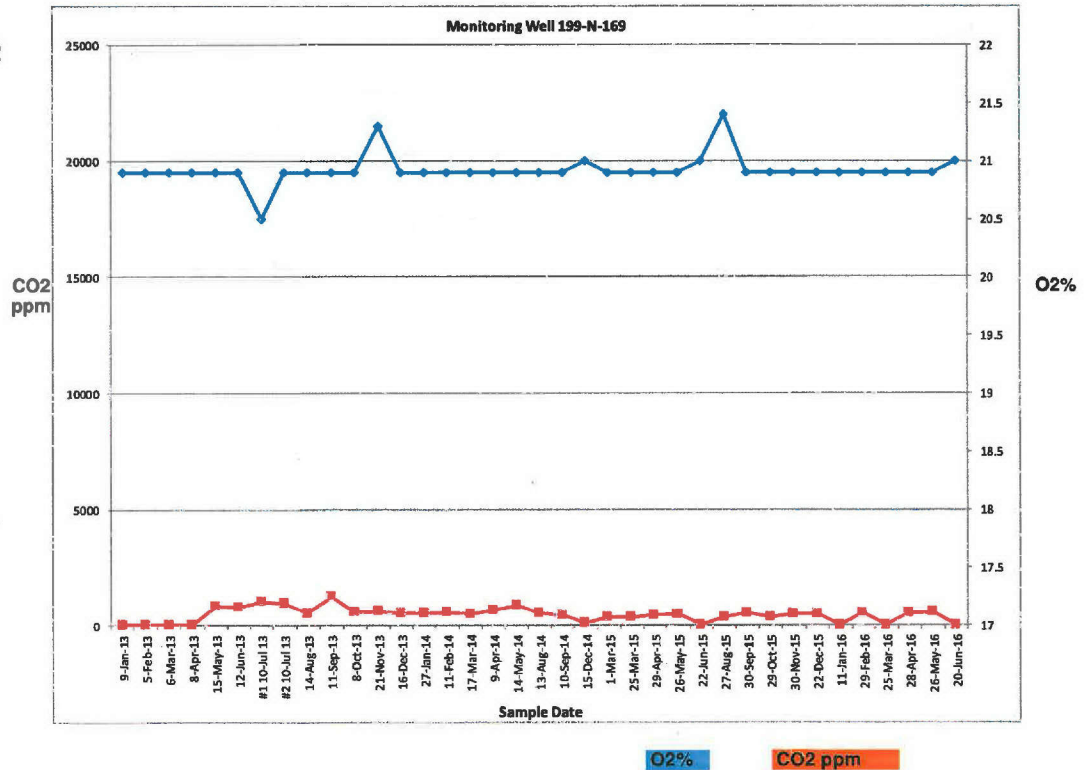


Figure NR-2. Bioventing Wells 199-N-169 and 199-N-171 Monthly Sampling Results.

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July 14, 2016 (June data)

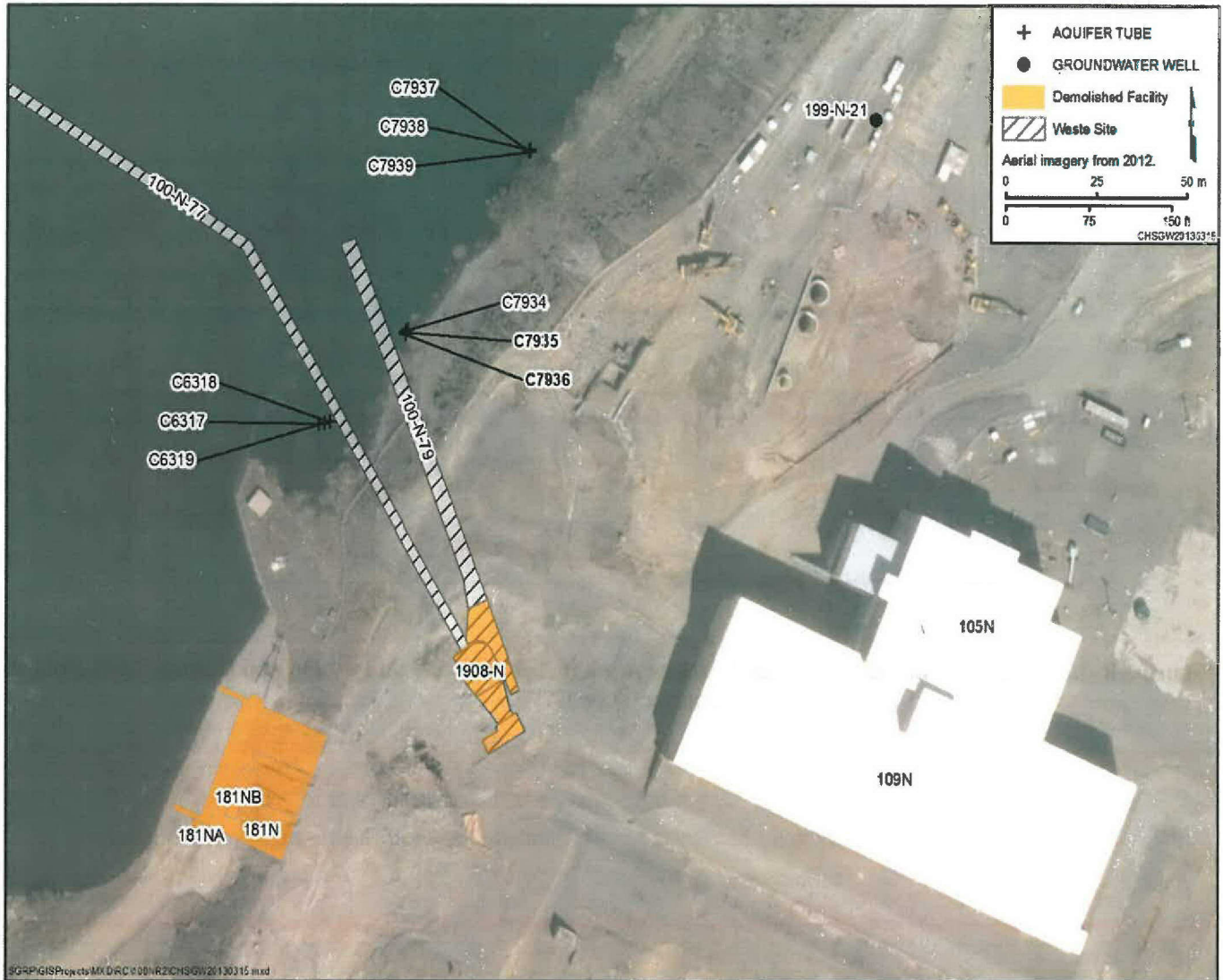


Figure NR-3. Locations of Aquifer Tubes C7934, C7935, and C7936.

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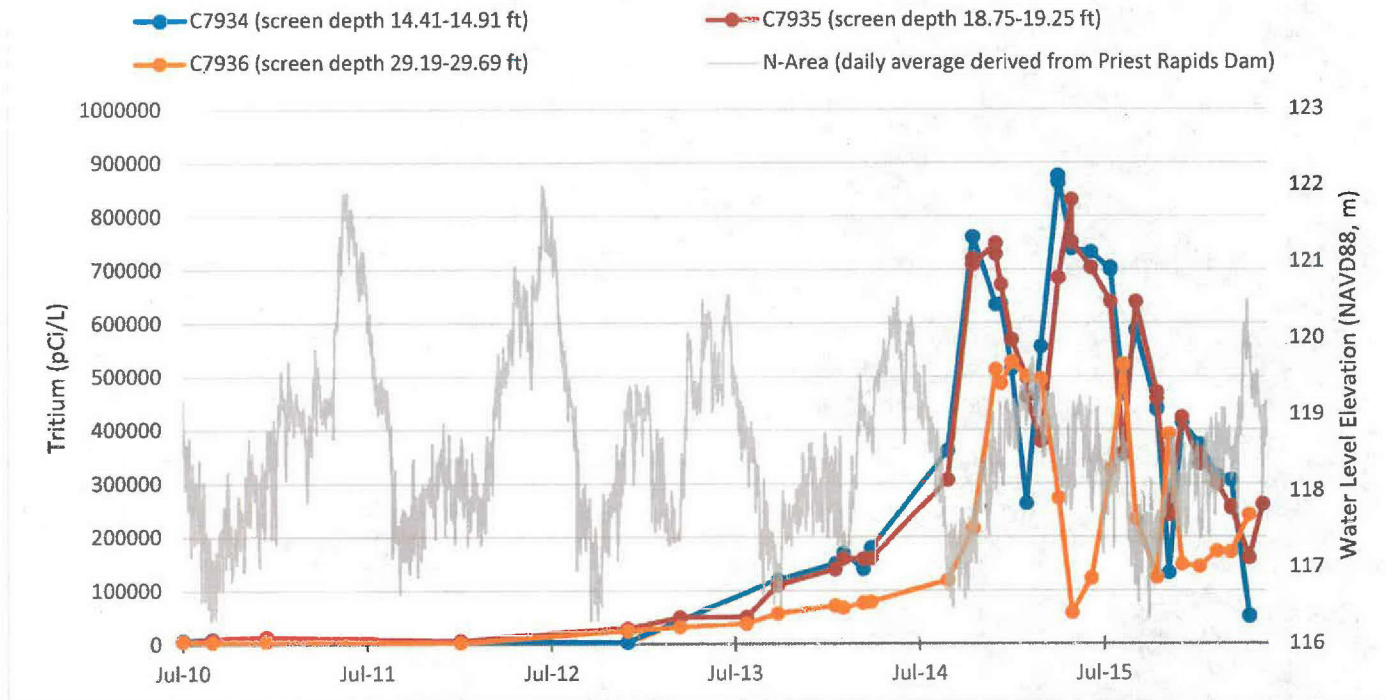


Figure NR-4. Tritium Trends through April 2016 at Aquifer Tubes C7934 and C7936 and through May 2016 at Aquifer Tube C7935.

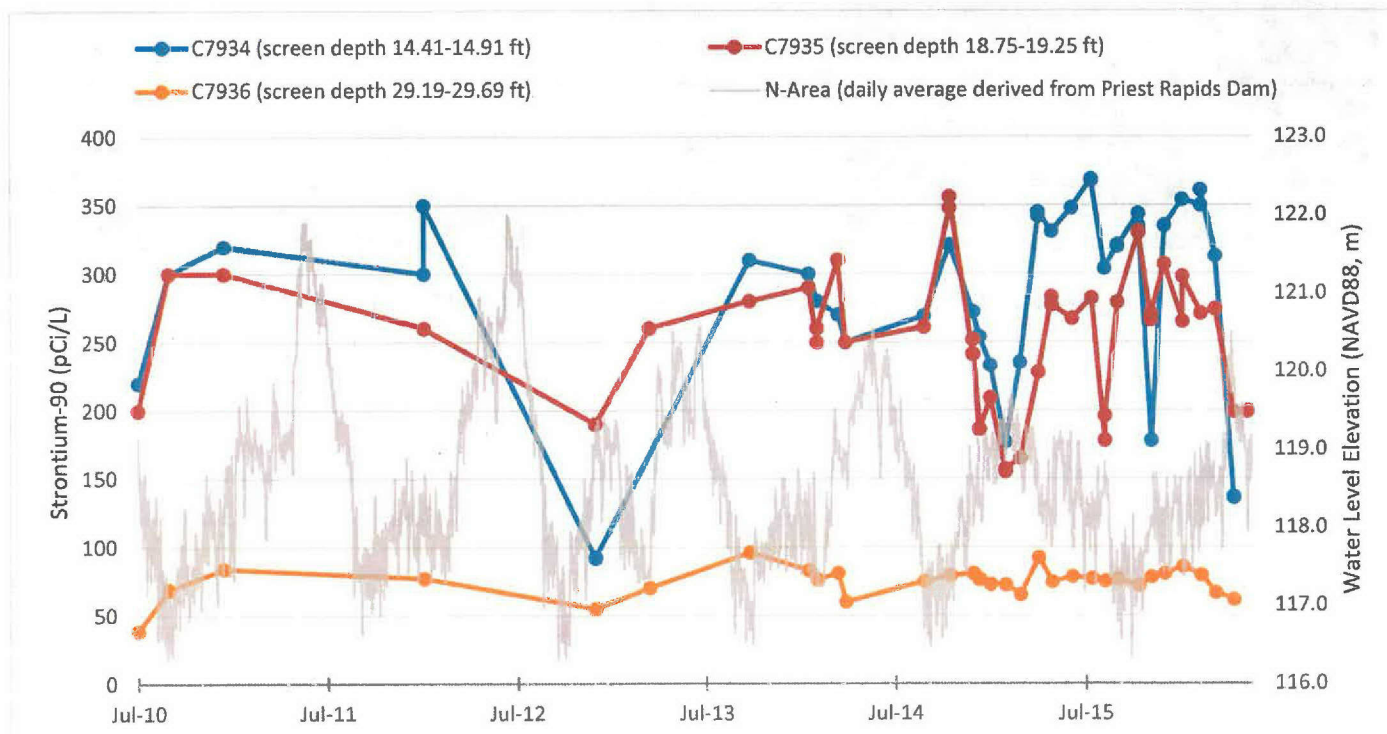


Figure NR-5. Strontium-90 Trends through April 2016 at Aquifer Tubes C7934 and C7936 and through May 2016 at Aquifer Tube C7935.

100/300 Areas Unit Managers Meeting

July 14, 2016 (June data)

100-HR-3 Groundwater Operable Unit – Mike Drewett/Kris Ivarson

- CERCLA Process Implementation:
 - ✓ EPA and Ecology resolving EPA legal comments on the Proposed Plan, planned to be issued to the public by late July.
- FY16 Drilling Progress
 - ✓ Completed drilling of 6 out of the 8 wells in 100-HR-3. Construction and well development for those six is ongoing. Drilling on the other next wells is underway.
- Ringold Upper Mud (RUM) Aquifer Pump Test
 - ✓ Step and constant rate tests have been completed, and data is being analyzed.
- Remedial Actions & System Modifications
 - ✓ The volume of groundwater treated and mass of Cr(VI) removed from the 100-HR-3 P&T systems during June 2016 are:
 - Treated: 62.5 million gallons (64.4 in May)
 - Removed: 6.9 kg of Cr(VI) (8.0 in May)
 - ✓ The influent and effluent Cr(VI) concentrations (measured weekly) for the 100-HR-3 systems during April are presented in Table H-1.

Table H-1. Monthly Summary of Influent and Effluent Concentrations at the 100-HR-3 P&T Systems

System	Weekly Influent Concentrations ^a (µg/L)	Average Monthly Influent Concentration (µg/L)	Weekly Effluent Concentrations ^{ab} (µg/L)	Average Monthly Effluent Concentration (µg/L)
100-DX	35, 33, 38, 19, 31	31	3, -3, 2, -5, -5	-2
100-HX	19, 21, 15, 19	19	1, 0, 0, 1	0.5

a. Concentrations provided represent samples taken during the current month and loaded into HEIS as of the publication of the UMM.

b. Concentrations reported are below detection and represent the actual instrument reading on the sample(s). The detection limit is approximately 2 µg/L hexavalent chromium. The readings indicate that the measured concentration is indistinguishable from the blank.

- ✓ FY 2016 (Oct. through June) P&T performance to date:

P&T System	Treated (mgal)	Removed (kg)
DX	295	53.7
HX	203	18.9
Total 100-HR-3	498	72.6

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- ✓ A summary of the number of extraction and injection wells in the DX and HX P&T systems is shown in Table H-2. Figure H-1 illustrates the monthly average pumping rates for operating extraction wells across the DX and HX P&T systems. River levels are increasing, and therefore pumping rates have also increased.

Table H-2. Summary of the Number of Extraction and Injection Wells in the 100-HR-3 Systems

Wells	DX		HX		Total
	2014	2015	2014	2015	Current
Number of extraction wells	44	46	31	34	80
Number of injection wells	14	11	14	16	27

Note:

The FY16 well realignments are pending cultural review and completion of design drawings. There has been no change to the number of operational wells in 2016.

- ✓ Resin reconditioning activities at DX were completed and the plant is operating at full capacity.
- ✓ Summaries of the volume of groundwater treated and Cr(VI) removed for the 100-DX and 100-HX pump and treat systems are shown in figures H-2 and H-3, respectively.
- ✓ A general reduction in Cr(VI) mass removal over time, a function of progress of remediation with associated reduction in groundwater contaminant concentration, is exhibited at both DX and HX. The drop in concentrations is more pronounced at DX, where concentrations were previously at very high levels. Influent concentrations at DX continue to decline as remediation progresses.

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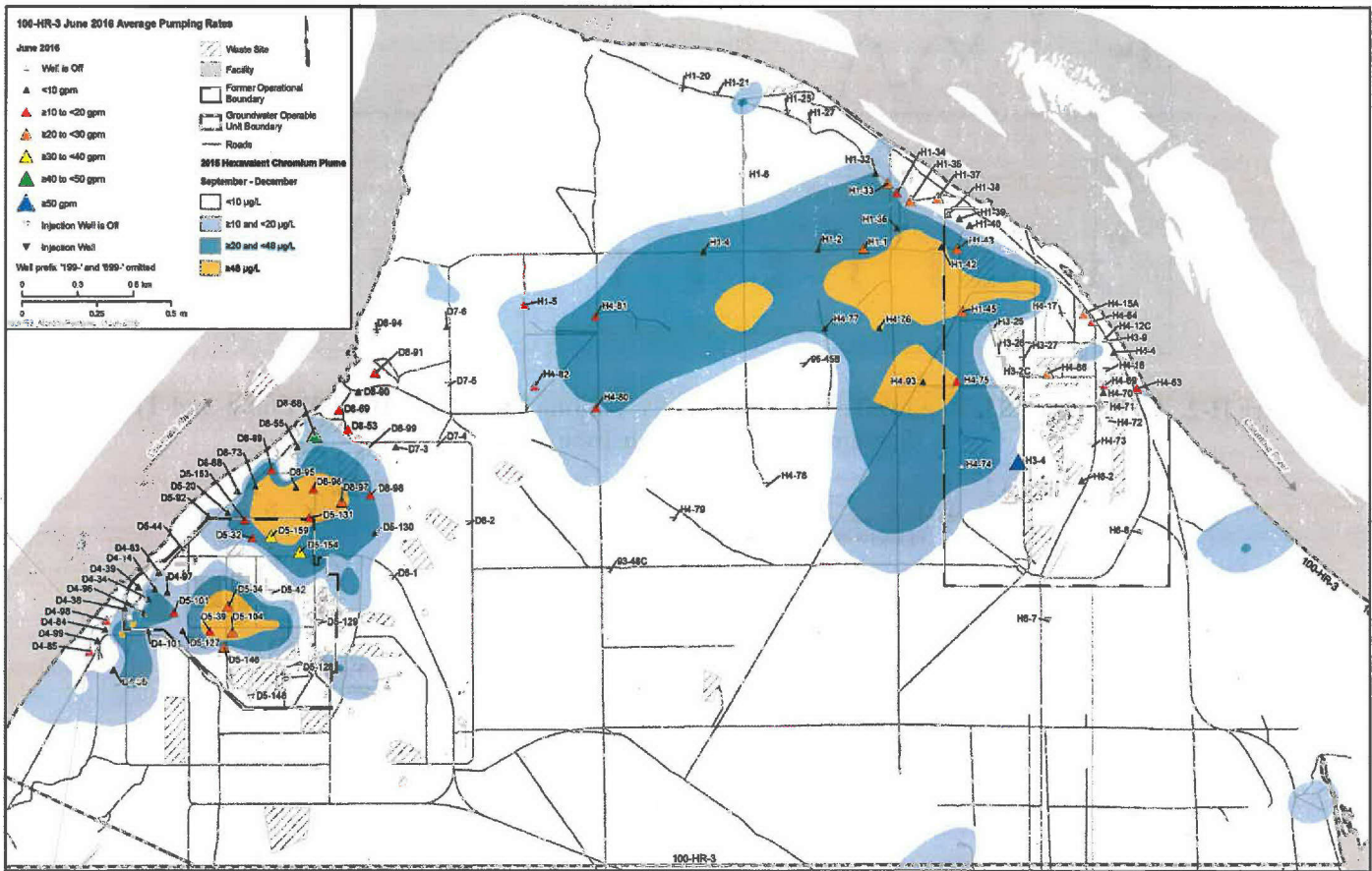


Figure H-1. June 2016 Average Pumping Rates for the 100-HR-3 P&T System.

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July 14, 2016 (June data)

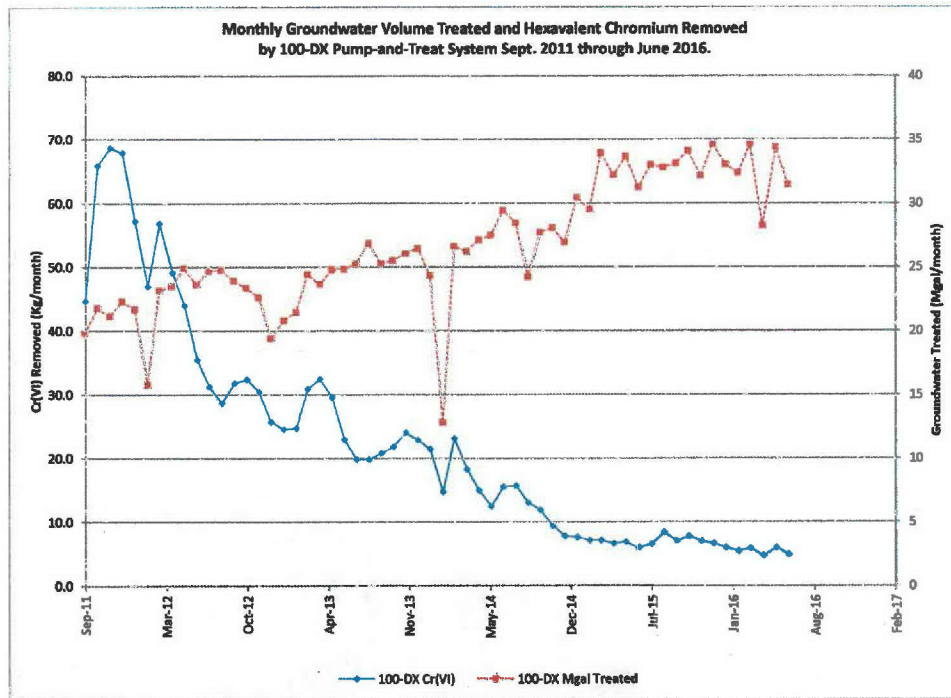


Figure H-2. Monthly Cr(VI) Removed and Groundwater Volume Treated by 100-DX Pump-and-Treat, September 2011 through June 2016.

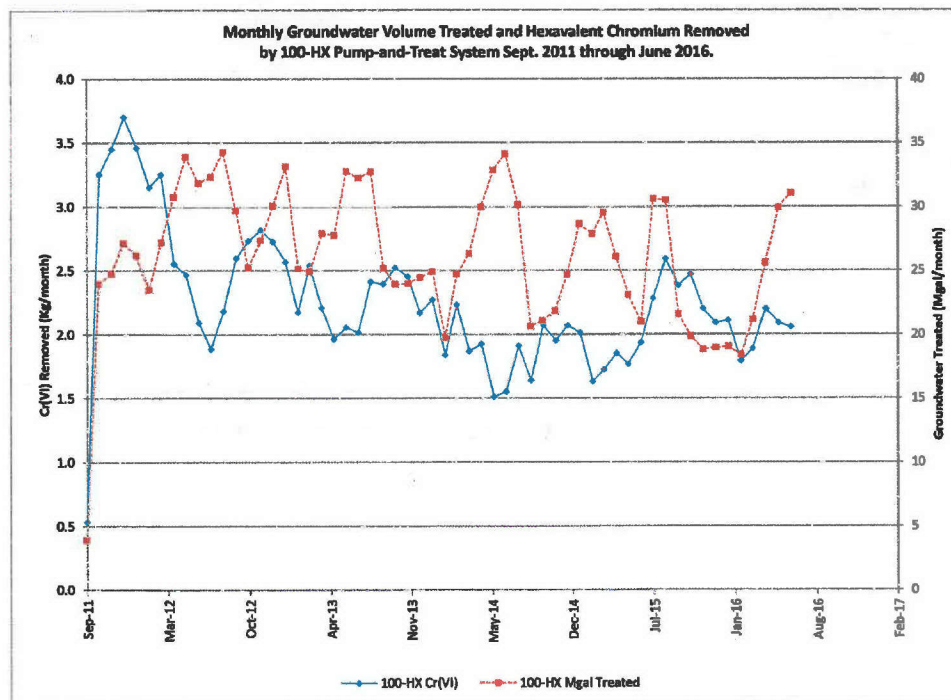


Figure H-3. Monthly Cr(VI) Removed and Groundwater Volume Treated by 100-HX Pump-and-Treat, September 2011 through June 2016.

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100-FR-3 Groundwater Operable Unit – Robert Evans/Mary Hartman

- CERCLA Process Implementation:
 - ✓ Complete
- Monitoring & Reporting:
 - ✓ Installation of the new monitoring wells was completed in June 2016. Figure F-1 illustrates locations. Table F-1 summarizes information about the wells, including data from grab samples collected during development.
 - ✓ The new wells are scheduled for sampling in August. They will be sampled quarterly for the first year.
 - ✓ Five wells were sampled as scheduled in June. Results are pending.
- Seven old wells in the monitoring network (installed between 1949 and 1971) were brushed, sand pumped, and redeveloped. The need for additional maintenance is being evaluated; some may be reconfigured to seal off long perforated intervals or screens.

Table F-1. Summary of Information from New Monitoring Wells

Well ID	Well Name	Status	Aquifer Thickness (m)	Nitrate (mg/L)*	TCE (ug/L)*	Comment
C9472	699-75-34	Decommissioned	2.9	No sample	No sample	Built, but not per design; replaced by C9628
C9474	699-71-26	Decommissioned	0.1	53	Not analyzed	Aquifer too thin to monitor; water sampled prior to decommissioning, primarily from RUM. Nitrate concentration greater than current interpretation in unconfined aquifer.
C9475	699-71-34	Accepted	1.6	Pending	<0.3	TCE consistent with current plume interpretation
C9476	699-75-31	Accepted	0.6	79.7	<0.3	Nitrate and TCE consistent with current plume interpretation
C9477	699-75-28	Accepted	2.8	34.1	Not analyzed	Nitrate consistent with current plume interpretation
C9478	699-66-32	Accepted	1.0	48.7	Not analyzed	Nitrate consistent with current plume interpretation
C9479	699-66-30	Decommissioned	0.0	No sample	No sample	Dry hole
C9480	699-67-26	Accepted	0.9	8.41	Not analyzed	Nitrate consistent with current plume interpretation
C9628	699-75-34B	Accepted	2.5	53.1	15	Replacement for C9472. Nitrate consistent with current plume interpretation. TCE higher than current interpretation.
*Preliminary results from samples collected during drilling or development						

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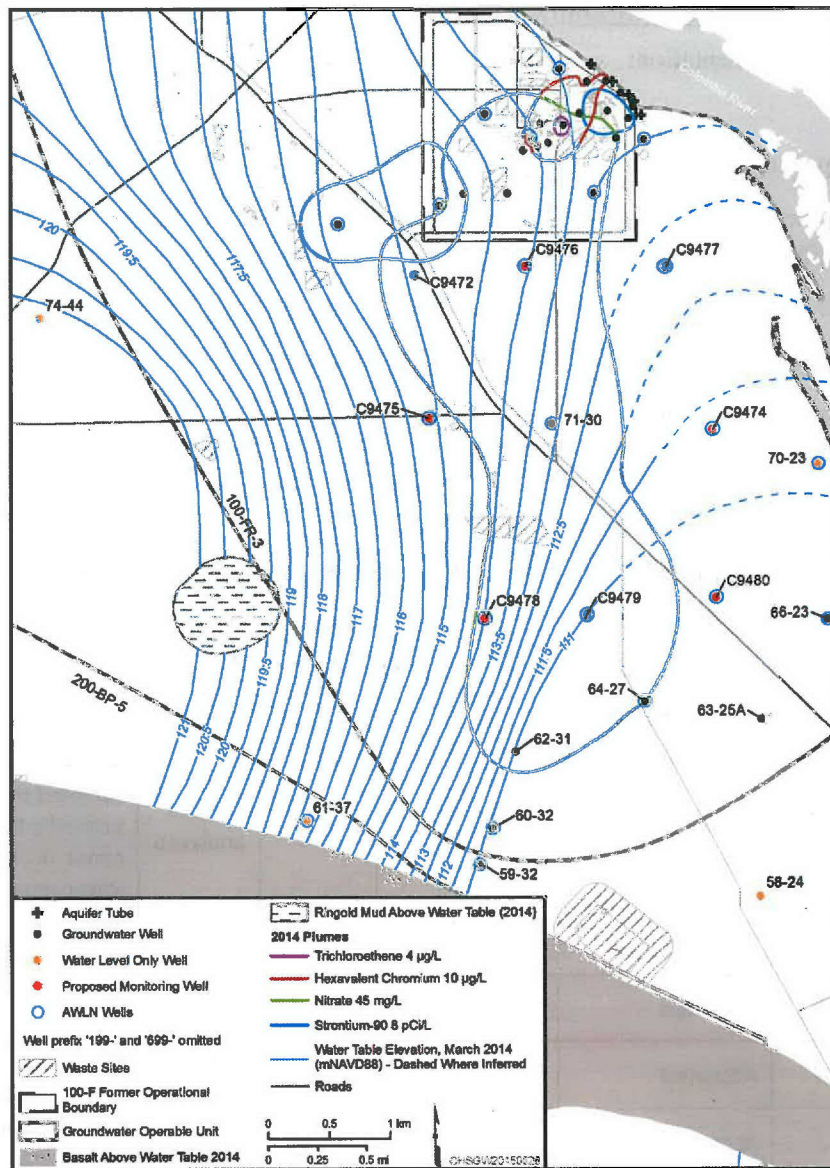


Figure F-1. Well Locations at 100-F

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July 14, 2016 (June data)

300-FF-5 Groundwater Operable Unit – Patrick Baynes/Virginia Rohay/Farah Elloy

- CERCLA Process Implementation:
 - ✓ Nothing new to report
- Remedial Actions:
 - ✓ Summary of preliminary, short-term observations for Stage A uranium sequestration (Figures FF-1 and FF-2):
 1. Injected directly into aquifer before, during, and immediately after infiltration
 - a. Goal: Sequester any uranium mobilized to groundwater as a result of infiltration
 - b. Observation(s):
 - i. Increase in phosphate concentrations observed in the monitoring wells located within Stage A
 - ii. No significant increase in uranium concentrations detected in down-gradient wells
 - iii. Phosphate concentrations declined quickly
 - c. Conclusion:
 - i. Direct injection to wells screened only in the aquifer was not effective at delivering high sustained concentrations of phosphate to the aquifer because of dilution in the groundwater
 2. Infiltrated into vadose zone at a nominal depth of 6 feet below surface
 - a. Goal: Deliver phosphate to vadose zone and periodically re-wetted zone (PRZ) to sequester uranium
 - b. Observation(s):
 - i. Wetting front was well distributed laterally and vertically (based on Electrical Resistivity Tomography [ERT] data)
 - ii. Wetting front rate of downward movement varied from 0.5 to 2 m/d (based on ERT data)
 - iii. Local temporary increase in uranium concentration observed in aquifer monitoring wells
 - iv. Phosphate not uniformly distributed vertically in vadose zone (based on phosphate concentrations in soil samples).
 - c. Conclusion(s):
 - i. Increase in uranium concentration not discernible in the aquifer
 - ii. High phosphate concentrations in upper vadose zone indicated phosphate precipitation in upper vadose zone
 - iii. Lower permeability lithofacies led to lateral spreading
 3. Injected directly into PRZ after infiltration
 - a. Goal: Deliver phosphate to PRZ to sequester uranium in PRZ
 - b. Observation(s):
 - i. Phosphate was detected in PRZ monitoring wells at varying concentrations
 - ii. A temporary spike in uranium in PRZ within the treatment area during treatment
 - c. Conclusion(s):
 - i. Injection into PRZ was successful in delivering phosphate at high concentrations to PRZ
 - ii. Radius of influence of PRZ injections determined to be ~ 40 feet (based on phosphate concentrations in PRZ water samples and post-treatment borehole soil samples)

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- Monitoring & Reporting:

- ✓ 300 Area Industrial Complex: All 6 wells samples scheduled for June 2016. The next sampling event is scheduled for September 2016.
- ✓ 618-10 Burial Ground/316-4 Crib: The next sampling event is scheduled for December 2016.
- ✓ 618-11 Burial Ground: The next sampling event is scheduled for October 2016.
- ✓ 300 Area Process Trenches (316-5) RCRA Monitoring: All 8 wells scheduled for sampling in June 2016 were sampled on June 7, June 8, or June 9, 2016. The next sampling event is scheduled for July 2016. *Note, the 8 wells are sampled semiannually with 4 independent samples collected per semiannual period; the 4 independent samples are collected on a monthly sampling interval. As a result, the 8 wells are sampled 8 months per year.*

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Figure FF-1. Location of the Stage A Enhanced Attenuation Area

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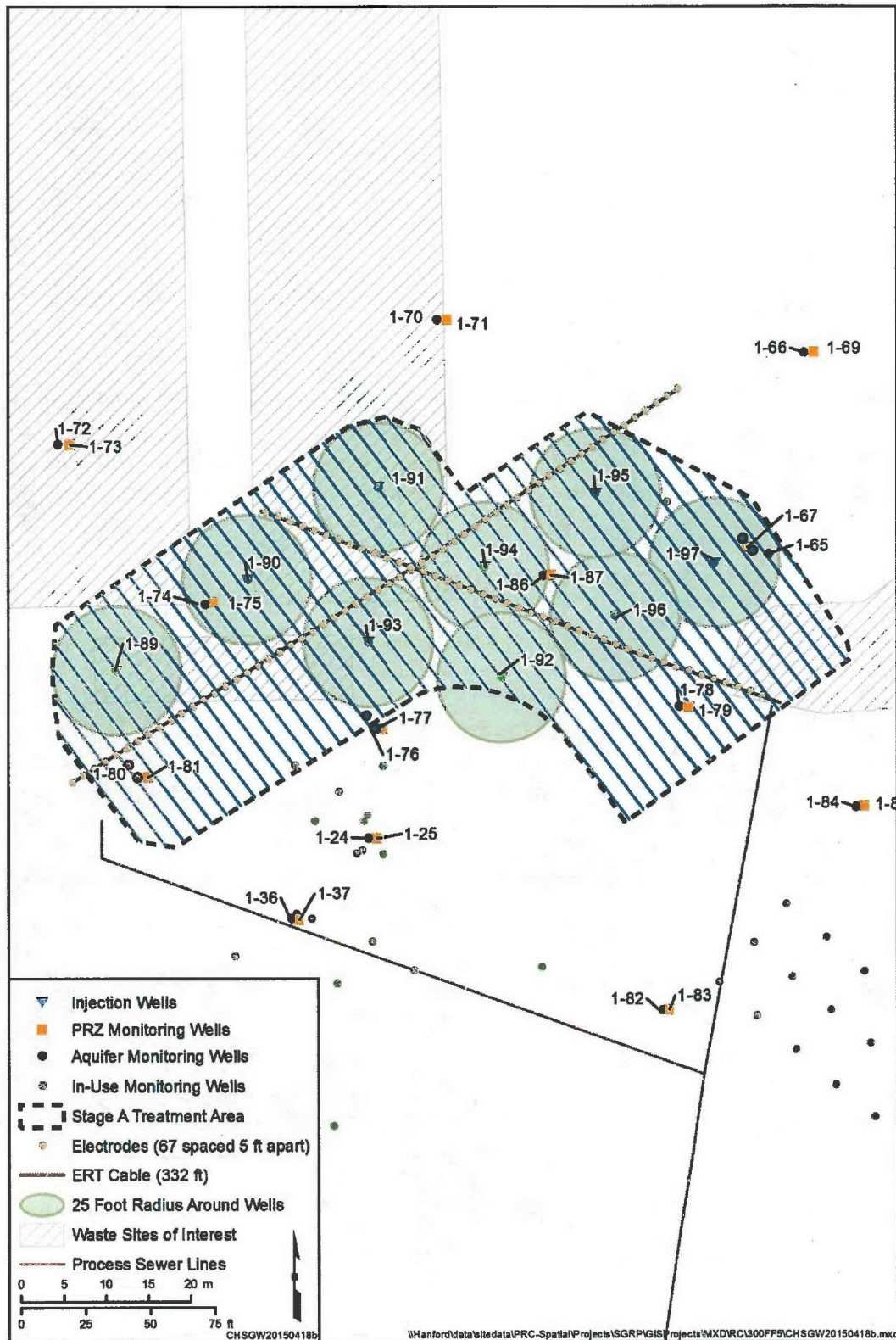


Figure FF-2. Location of the Stage A Enhanced Attenuation Area Injection and Monitoring Wells and Infiltration Lines.

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July 14, 2016 (June data)

Hanford Sampling Program Information

Table 1 Wells, Aquifer Tubes, and springs in the River Corridor Successfully Sampled In June 2016

100-BC	100-FR	100-HR-D	100-HR-H	100-KR	100-NR	1100-EM	300-FF
199-B2-16	199-F5-1	199-D3-2	199-H1-1	199-K-106A	199-K-150		399-1-10A
199-B3-1	199-F5-4	199-D4-14	199-H1-2	199-K-106A	199-N-122		399-1-10B
199-B3-46	199-F5-46	199-D4-22	199-H1-34	199-K-107A	199-N-123		399-1-16A
199-B3-47	199-F5-55	199-D4-23	199-H1-36	199-K-107A	199-N-14		399-1-16B
199-B3-52	199-F5-6	199-D4-25	199-H1-39	199-K-108A	199-N-146		399-1-17A
199-B4-14		199-D4-38	199-H1-4	199-K-132	199-N-147		399-1-17B
199-B5-2		199-D4-62	199-H1-42	199-K-132	199-N-165		399-1-18A
199-B5-6		199-D5-103	199-H1-43	199-K-137	199-N-28		399-1-18B
		199-D5-123	199-H1-45	199-K-137	199-N-346		399-1-55
		199-D5-125	199-H1-46	199-K-138	199-N-347		399-1-7
		199-D5-126	199-H3-2A	199-K-139	199-N-348		399-2-1
		199-D5-145	199-H3-2C	199-K-140	199-N-349		399-2-2
		199-D5-15	199-H3-9	199-K-158	199-N-361		399-4-14
		199-D5-151	199-H4-10	199-K-165	199-N-362		
		199-D5-152	199-H4-12C	199-K-165	199-N-363		
		199-D5-16	199-H4-13	199-K-166	199-N-364		
		199-D5-38	199-H4-45	199-K-168	199-N-365		
		199-D5-43	199-H4-5	199-K-173	199-N-366		
		199-D8-5	199-H4-63	199-K-173	199-N-367		
		199-D8-53	199-H4-64	199-K-174	199-N-67		
		199-D8-54A	199-H4-69	199-K-175	199-N-71		
		199-D8-54B	199-H4-70	199-K-184	199-N-75		
		199-D8-68	199-H4-75	199-K-185	199-N-76		
		199-D8-69	199-H4-76	199-K-196	199-N-92A		
		199-D8-70	199-H4-77	199-K-204	199-N-96A		
		199-D8-72	199-H4-87	199-K-204	APT1		
		199-D8-73	199-H4-88	199-K-205	APT5		
		199-D8-88	199-H4-88	199-K-205	C6323		
		199-H1-5	199-H4-89	199-K-206	C6324		
		199-H4-80	199-H4-90	199-K-34	C7881		
		199-H4-81	199-H4-91	199-K-34	C7934		
		199-H4-82		AT-K-1-D	C7935		
		699-97-51A		AT-K-1-M	C7936		
		699-98-49A		AT-K-1-S	C7937		
					C7938		
					C7939		
					N116mArray-11A		
					N116mArray-15A		

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100-BC	100-FR	100-HR-D	100-HR-H	100-KR	100-NR	1100-EM	300-FF
					N116mArray-1A		
					N116mArray-4A		
					N116mArray-6A		
					N116mArray-8A		
					N116mArray-9A		
					NVP1-1		
					NVP1-2		
					NVP1-3		
					NVP1-4		
					NVP1-5		
					NVP2-115.1		
					NVP2-115.4		
					NVP2-115.7		
					NVP2-116.0		
					NVP2-116.3		

100/300 Areas Unit Managers Meeting
July 14, 2016 (June data)

Table 2 Fiscal Year 2015 and 2016 Sample Trips in the River Corridor Areas awaiting at the end of June 2016

Quarter Scheduled	GWIA	Sample Type	Site Name	Scheduled Date	Frequency	Months Remain	Status	Comment
FY 2015 Q4	100-NR	AQUIFER TUBE	C6331	9/1/2015	Annual	2		
FY 2016 Q1	100-HR-D	AQUIFER TUBE	36-M	11/1/2015	Annual	4		Unsuccessful 12-8-2015
	100-KR	SPRING	100-K SPRING 68-1	10/1/2015	Annual	3		
		AQUIFER TUBE	AT-K-4-M	10/1/2015	Annual	3		
	100-NR	SPRING	River water adjacent to C6317/18/19	10/1/2015	Annual	3		
		SPRING	River water adjacent to C7934/35/36	10/1/2015	Annual	3		
		SPRING	River water adjacent to C7937/38/39	10/1/2015	Annual	3		
FY 2016 Q2	100-NR	AQUIFER TUBE	C6135	1/11/2016	Other	0	Late	Canceled
		AQUIFER TUBE	N116mArray-10A	3/1/2016	Quarterly	0	Late	Maintenance Required, Review for Cancellation
FY 2016 Q3	100-HR-D	WELL	199-D3-2	5/1/2016	Other	0	Late	Canceled, Sampled 6-17-2016
	100-HR-H	WELL	199-H4-15CQ	4/1/2016	Biannual	3		Maintenance Required
		WELL	199-H4-83	6/1/2016	3 Times Annually	3		
	100-KR	WELL	199-K-106A	6/27/2016	Monthly	1		Special Study, Schedule adjusted
		WELL	199-K-107A	6/27/2016	Monthly	1		Special Study, Schedule adjusted
		WELL	199-K-132	6/27/2016	Monthly	1		Special Study, Schedule adjusted
		WELL	199-K-137	6/27/2016	Monthly	1		Special Study, Schedule adjusted
		WELL	199-K-165	6/27/2016	Monthly	1		Special Study, Schedule adjusted
		WELL	199-K-173	6/27/2016	Monthly	1		Special Study, Schedule adjusted
		WELL	199-K-185	6/27/2016	Monthly	1		Special Study, Schedule adjusted
		WELL	199-K-188	5/1/2016	Quarterly	1		Access Restricted
		WELL	199-K-203	6/1/2016	Quarterly	2		
		WELL	199-K-204	6/27/2016	Monthly	1		Special Study, Schedule adjusted
		WELL	199-K-205	6/27/2016	Monthly	1		Special Study, Schedule adjusted
		WELL	199-K-34	6/27/2016	Monthly	1		Special Study, Schedule adjusted
		WELL	199-K-36	5/1/2016	Biannual	4		Access Restricted
		AQUIFER TUBE	C7641	4/1/2016	Quarterly	0	Late	Canceled
		AQUIFER TUBE	C7642	4/1/2016	Quarterly	0	Late	Canceled
		AQUIFER TUBE	C7643	4/1/2016	Quarterly	0	Late	Canceled
	100-NR	WELL	199-N-173	6/1/2016	Other	1		
		WELL	199-N-350	6/1/2016	Quarterly	2		
		WELL	199-N-351	6/1/2016	Quarterly	2		
		WELL	199-N-352	6/1/2016	Quarterly	2		
		WELL	199-N-353	6/1/2016	Quarterly	2		
		WELL	199-N-354	6/1/2016	Quarterly	2		

100/300 Areas Unit Managers Meeting

July 14, 2016 (June data)

Quarter Scheduled	GWIA	Sample Type	Site Name	Scheduled Date	Frequency	Months Remain	Status	Comment
		WELL	199-N-355	6/1/2016	Quarterly	2		
		WELL	199-N-356	6/1/2016	Quarterly	2		
		WELL	199-N-357	6/1/2016	Quarterly	2		
		WELL	199-N-358	6/1/2016	Quarterly	2		
		WELL	199-N-359	6/1/2016	Quarterly	2		
		WELL	199-N-360	6/1/2016	Quarterly	2		
		WELL	199-N-46	6/1/2016	Quarterly	2		
		AQUIFER TUBE	C9586	6/1/2016	Quarterly	2		
		AQUIFER TUBE	C9587	6/1/2016	Quarterly	2		
		AQUIFER TUBE	C9588	6/1/2016	Quarterly	2		
		AQUIFER TUBE	C9589	6/1/2016	Quarterly	2		
		AQUIFER TUBE	C9590	6/1/2016	Quarterly	2		

100/300 Areas Unit Managers Meeting

July 14, 2016 (June data)

Table 3 Groundwater Sampling Locations in the River Corridor Scheduled for July 2016

100-BC	100-FR				100-HR-D	100-HR-H	100-KR	100-NR	1100-EM	300-FF
	699-87-42A				199-D4-19	199-H3-2C	199-K-106A	199-N-167		399-1-10A
					199-D4-26	199-H3-9	199-K-106A	199-N-169		399-1-10B
					199-D4-55	199-H4-12C	199-K-107A	199-N-171		399-1-16A
					199-D4-65	199-H4-6	199-K-107A	199-N-172		399-1-16B
					199-D4-77	199-H4-88	199-K-108A	199-N-173		399-1-17A
					199-D4-86	199-H4-92	199-K-117A	199-N-18		399-1-17B
					199-D4-92	199-H4-93	199-K-132	199-N-183		399-1-18A
					199-D4-93	199-H5-16	199-K-132	199-N-19		399-1-18B
					199-D4-95	699-100-43B	199-K-137	199-N-3		
					199-D4-96	699-101-45	199-K-137	199-N-56		
					199-D4-97	699-88-41	199-K-138	199-N-96A		
					199-D4-98	699-89-35	199-K-139	C6132		
					199-D4-99	699-90-37B	199-K-140	C6135		
					199-D5-101	699-97-47B	199-K-158	C7934		
					199-D5-103	699-97-60	199-K-165	C7935		
					199-D5-127		199-K-165	C7936		
					199-D5-13		199-K-166			
					199-D5-130		199-K-166			
					199-D5-131		199-K-168			
					199-D5-14		199-K-173			
					199-D5-145		199-K-173			
					199-D5-151		199-K-173			
					199-D5-152		199-K-174			
					199-D5-159		199-K-175			
					199-D5-20		199-K-18			
					199-D5-32		199-K-184			
					199-D5-33		199-K-185			
					199-D5-36		199-K-196			
					199-D5-37		199-K-20			
					199-D7-3		199-K-202			
					199-D7-6		199-K-204			
					199-D8-101		199-K-204			
					199-D8-102		199-K-205			
					199-D8-4		199-K-205			
					199-D8-89		199-K-205			
					199-D8-90		199-K-206			
					199-D8-91		199-K-207			
					199-D8-95		199-K-221			
					199-D8-96		199-K-222			
					199-D8-97		199-K-223			

100/300 Areas Unit Managers Meeting

July 14, 2016 (June data)

100-BC	100-FR				100-HR-D	100-HR-H	100-KR	100-NR	1100-EM	300-FF
					199-D8-98		199-K-223			
					699-97-61		199-K-224			
							199-K-224			
							199-K-34			
							199-K-34			
							C7641			
							C7642			
							C7643			

100/300 Areas Unit Managers Meeting*July 14, 2016 (June data)***Documents for AR Submission**

Number	Title	Referencing Doc/Driver
DOE/RL-2001-27, R2	Remedial Design/Remedial Action Work Plan for the 100-NR-2 Operable Unit	cleared July 2016
CHPRC-02799, R1	Performance Measure PM-30-5-16: Complete Stage A 300-FF-5 Uranium Sequestration Injections	cleared May 2016
ECF-100BC5-15-0121, R0	Hydraulic Gradients in the 100-BC-5 Operable Unit 2010 through 2015	cleared April 2016
ECF-Hanford-15-0057, R0	Preparation of the March 2015 Hanford Site Water Table Maps and Potentiometric Surface Maps	cleared July 2016
SGW-59926, R0	Briefing to Ecology on LLWMA-1, NRDWL, and 183-H Updated RCRA Groundwater Monitoring Plans, January 19, 2016	cleared May 2016
SGW-59931, R0	Briefing to Ecology on 300 APT Updated RCRA Groundwater Monitoring Plans and RCR Responses for SGW-59548 Rev. 0, March 19, 2016	cleared May 2016
SGW-59756, R0	100-H Area RUM Aquifer Pump Test Plan	cleared April 2016

Attachment 3

100K Area Report NEW
100/300 Area Unit Manager Meeting
July 14, 2016

RL-0012 Sludge Treatment Project

TPA Milestone **M-016-177**, *Complete 105-KW sludge transfer equipment installation.*
(9/30/17) – On Schedule

- **Equipment Procurement/Fabrication**
 - Completed Receipt Inspection on Sludge Transport and Storage Container vessels numbers 2 through 5 and delivered them to HiLine Engineering and Fabrication Services to add the STSC Appurtenances. Continued with design of the Ventilation Stack Monitoring System for the 105K West Basin Annex.
- **MASE Preoperational Acceptance Testing (MPAT)**
 - Test is ~80% complete with final completion forecast in early August
 - Completed Interlock Testing
 - Installed Nitrogen Supply/Purge Panels and associated system hardware.
 - Completed Ventilation System
 - Completed Fit Checks of Contamination Drapes and associated Smoke Test
 - Completed Additional Engineering Feature Demonstrations
 - Began Sand Simulant Testing
- **Construction**
 - **Annex**
 - Continued performing periodic PMs and CM in the Annex Facility
 - Completed installation of the safety significant pipe supports for the fire protection system piping
 - Completed installation of Nitrogen Concrete Pad
 - **In-Basin Construction**
 - Began installation of Booster Pump installation rails
 - Worked on development of work packages for installation of ECRTS hardware

TPA Milestone **M-016-175**, *Begin sludge removal from 105-KW Fuel Storage Basin*
(9/30/18) – On Schedule

- Project personnel continued reviews of the draft KW Basin Documented Safety Analysis and Technical Safety Requirement documents with DOE RL. These documents combine the ECRTS PDSA R2 and the current KW Basin safety basis documents into an integrated safety basis set. Formal submittal to DOE-RL is forecast for August, 2016.
- Began development of the One Time Request for Shipment (OTRS) that will be used for shipping the sludge from 100K Area to T Plant.
- Continued development of Training Lesson Guides and Exam Banks
- Continued to develop ECRTS operations and maintenance procedures

- Advanced 100K Area Readiness Activities
 - Continued ARP and RSA review and comment resolution cycle
 - Continued development of the Plan of Action (POA)
- Issued the Explanation of Significant Differences for the K Basins Record of Decision to allow longer term storage of sludge at T Plant.
- Continued removal of North Loadout Pit equipment at T Plant.
- Continued installation of Electrical and Water Addition hardware in the Operations Gallery.
- Conducted HRB of Work Package to Install Cell Storage Equipment at T Plant and began comment incorporation,
- Continued development of Work Package to install Nitrogen Purge System
- Advanced T Plant Readiness Activities
 - Continued preparation of ARP and RSAs development work for T-Plant RA-2

TPA Milestone **M-016-176**, *Complete sludge removal from 105-KW Fuel Storage Basin*
(12/31/19) – On Schedule

- Initiation of this milestone follows completion of Milestone M-016-175

TPA Milestone **M-016-178**, *Initiate deactivation of 105-KW Fuel Storage Basin*.
(12/31/19) – On Schedule

- The following pre-deactivation actions are underway:
 - Integrated Water Treatment System garnet filter media removal design work continues. The preliminary design is expected to be completed by the end of fiscal year 2016.
 - Skimmer system sand filter media removal system design work is on hold awaiting funding.
 - Dose to curie modeling of below-water debris in the center and West bays of K West Basin continues. A formal below-water debris activity calculation for the East bay of K West Basin is undergoing peer review.

TPA Milestone **M-016-173**, *Select K Basin sludge treatment and packaging technology and propose new interim sludge treatment and packaging milestones*.

(9/30/22) – On Schedule

- DOE/RL-2011-15, *Remedial Design/ Remedial Action Work Plan for the K Basins Interim Remedial Action: Treatment and Packaging of K Basins Sludge* is being revised to include specific provisions for the safe storage of sludge at T-Plant. The document will be issued after the ESD public comment period.

TPA Milestone **M-016-181**, *Complete deactivation, demolition and removal of 105-KW Fuel Storage Basin*

(9/30/23) – On Schedule

- Preparation of a relative order of magnitude cost estimate and schedule to complete the deactivation and demolition of 105-KW Fuel Storage basin is in-progress.

TPA Milestone **M-016-186**, *Initiate soil remediation under the 105-KW Fuel Storage Basin*.

(12/31/23) – On Schedule

RL-0041 K Facility Demolition and Soil Remediation

TPA Milestone **M-016-143**, *Complete the interim response actions for 100 K Area within the perimeter boundary and to the Columbia River for Phase 2 actions. Phase 2 is defined in the 100 K Area RD/RA Work Plans.*

(9/30/24) – On Schedule

AB Waste Sites. A Verification Sampling Instruction (VSI) is in development to perform confirmation sampling for closure of four of the waste sites in the AB area (1607-K-2, 126-KE-2, 100-K-14, 100-K-50). Waste sites 120-KE-1, 120-KE-2, 120-KE-4, 120-KE-5, have been excavated to 20 feet and in-process samples were taken with analytical results pending. An equipment failure on a parked fuel tanker truck supporting the AB waste sites work resulted in a spill of about 400 gallons of diesel fuel. The soil impacted by the spill has been removed and disposed. Samples to confirm that cleanup levels for petroleum were met were collected and results are being evaluated.

165-KE Asbestos Project. The 165-KE water tunnel asbestos abatement was completed using glove bags. Cement asbestos board (CAB) removal is about 95% complete. Two walls in the basement battery room still need to be completed. The arc chute removal in the Motor Control Center (MCC) room is about 50% complete. Continue setting up Negative Pressure Enclosure (NPE) in the boiler room. Continue installing glove bags on TSI piping, also working glove bag removal on TSI piping in the upper boiler room.

- Continue working TSI asbestos abatement in the upper level of the boiler room area.
- Continue setting up the Negative Pressure Enclosure (NPE) for both levels in the boiler room. One note: The Insulators supporting this Project have been re-assigned to PFP starting on 7/25. The expected return is to be on 11/30. The Project will be in a Min Safe mode during this delay period.

TPA Milestone **M-093-28**, *Submit a change package for proposed interim milestones for 105-KE and 105-KW Reactor Interim Safe Storage*

(12/31/19) - On Schedule

TPA Milestone **M-093-27**, *Complete 105-KE and 105-KW Reactor Interim Safe Storage in Accordance with the Removal Action Work Plan.*

(9/30/2024) - On Schedule

TPA Milestone **M-016-00C**, *Complete all response actions for the 100 K Area*

(9/30/24) - On Schedule

Attachment 4

July 14, 2016 Unit Manager's Meeting Closure Operations Status

100 Area

- 100-N-83 - Draft closure document submitted to DOE and Ecology last week.
- 600-385 - WSRF reviewed, approved and signed by DOE and Ecology last week.

618-10

Trench Remediation

- Excavation and search for drums in slopes close to VPU field to resume next week in the southern portion of the trench.

VPU Remediation

- Approximately 76 out of 80 VPUs have been augered to date. All VPUs in rows 2, 3, 5 and 6 have been augered.
- Waste from 16 VPUs has been successfully retrieved and grouted.

300 Area

- 300-288:2 - Excavation, radiological surveying using GPERS, and sampling/analysis are complete. Analytical results have been received and CVP is currently being prepared.
- Gravel from CTA at north end of Pit 6 has been transported to the ERDF for reuse.
- Miscellaneous WCH equipment, conex boxes, and trailers throughout the 300 Area are being demobilized as needed for project transition.

Attachment 5

Activity ID	Activity Name	RD	% Cmpl	Start	Finish	FY2016			FY2017			
						JUL-2016	AUG-2016	SEP-2016	O	NOV-2016	DEC-2016	JAN-2017
Dan Elkins												
100 N												
100-N-83												
NB5B2D06	RL/Reg Review Draft A Closure Doc for 100-N-83	13	20%	05-Jul-16 A	01-Aug-16							
NB5B2D06A	Resolve RL/Reg Comments Draft A Closure Doc for 100-N-83	4	0%	02-Aug-16	08-Aug-16							
NB5B2D07	RL/Reg Sign Rev. 0 Closure Doc for 100-N-83	4	0%	09-Aug-16	15-Aug-16							
NB5B2D07A	Prepare and Issue Rev. 0 Closure Doc for 100-N-83	6	0%	16-Aug-16	24-Aug-16							
IU-2/6												
600-385												
C-6385-020	600-385 update archaeological sites (MOA 7a, 7b)	1	85%	18-May-16 A	11-Jul-16							
C-6385-025	600-385 Prepare Report Summarizing and Integrating Cultural	8	70%	18-May-16 A	21-Jul-16							
C-6385-070	RL/Reg Signature Rev.0 WSRF 600-385	0	100%	29-Jun-16 A	05-Jul-16 A							
C-6385-080	Prepare/Issue Rev.0 WSRF 600-385	1	90%	06-Jul-16 A	11-Jul-16							
C-6385-026	600-385 review and approve report Summarizing and Integrati	15	0%	25-Jul-16	17-Aug-16							
300 Area												
300-288:2 (Pit 6)												
D-CTA-0110	Remove 300-288:2 CTA (8,296 BCMS)	2	80%	16-Jun-16 A	12-Jul-16							
C-32882-350	300-288:2 Obtain Sample Analysis West	0	100%	20-Jun-16 A	05-Jul-16 A							
C-32882-340	300-288:2 Prepare Post-Ex Drawings (Ph 2)	4	50%	23-Jun-16 A	14-Jul-16							
C-32882-150	300-288:2 Prepare Draft A CVP	27	10%	06-Jul-16 A	24-Aug-16							
C-32882-160	300-288:2 RL/Reg Review Draft A CVP	8	0%	25-Aug-16	08-Sep-16							
C-32882-170	300-288:2 Resolve Comments/Incorp Chgs Draft A CVP	4	0%	12-Sep-16	15-Sep-16							
C-32882-180	300-288:2 RL/Reg Sign Rev 0 CVP	4	0%	19-Sep-16	22-Sep-16							
C-32882-190	300-288:2 Prepare and Issue Rev 0 CVP	4	0%	26-Sep-16	29-Sep-16							
CTA Expansion												
3MISC-520	Remove miscellaneous items at Cypress CTA	11	0%	11-Jul-16	27-Jul-16							
3MISC-530	Close off Cypress CTA with temp fencing	1	0%	28-Jul-16	28-Jul-16							
Jeff Lerch												
IU-2/6												
600-385 Restoration Plan												
6385R250	DOE Transmits Plant Study Notification	0	100%	30-Jun-16 A	05-Jul-16 A							
6385R240	WCH Transmits Revised Reveg Plan	0	100%	05-Jul-16 A	05-Jul-16 A							
6385R190	DOE Transmits Reveg Plan	2	0%	06-Jul-16 A	12-Jul-16							
6385R200	Tribes provide feedback on Revised Reveg Plan	8	0%	13-Jul-16	26-Jul-16							
6385R210	WCH Revise Reveg Plan per Tribal Input	4	0%	27-Jul-16	02-Aug-16							
6385R060	Tech Edit	2	0%	03-Aug-16	04-Aug-16							
6385R050	Internal Review / Inc. Comments	2	0%	08-Aug-16	09-Aug-16							

◆ Milestone ■ % Complete
 □ Actual Work □ Remaining Work
 ■ Actual Critical ■ Critical Remaining Work

UMM Schedule
 1 of 2

Print date: 13-Jul-16. Data date: 11-Jul-16. TASK filters: POW Format UMM.

Activity ID	Activity Name	RD	% Cmpl	Start	Finish	FY2016			FY2017			
						JUL-2016	AUG-2016	SEP-2016	O	NOV-2016	DEC-2016	JAN-2017
6385R070	WCH Transmit Draft Plan to DOE/MSA	1	0%	10-Aug-16	10-Aug-16							
6385R080	DOE/MSA Review of Plan	8	0%	11-Aug-16	24-Aug-16							
6385R090	Inc. DOE/MSA Comments	2	0%	25-Aug-16	29-Aug-16							
6385R100	WCH Transmit Revised Plan to DOE	1	0%	30-Aug-16	30-Aug-16							
6385R102	Received Additional Comments from DOE	1	0%	31-Aug-16	31-Aug-16							
6385R104	WCH Addressing Additional Comments from DOE	2	0%	01-Sep-16	06-Sep-16							
6385R106	WCH Transmits Final Plan to DOE	1	0%	07-Sep-16	07-Sep-16							
6385R150	DOE Transmit Final Reveg Plan (MOA 8a & 8b)	1	0%	08-Sep-16	08-Sep-16							
Gable Mountain FCS Sites Monitoring Report												
6000051250	WCH Addresses Comments & Re-Transmits Monitoring Report	1	85%	15-Jun-16 A	11-Jul-16							
6000051235	DOE Transmits to Consulting Parties	4	0%	12-Jul-16	18-Jul-16							
600-349 Geo-Physics												
C-6349-063	600-349 Geophysical Final Report & RL Briefings	4	90%	23-Jun-16 A	14-Jul-16							
600-349 Sampling												
600349MR100	Prepare Draft Monitoring Report	0	100%	29-Jun-16 A	06-Jul-16 A							
600349MR110	Tech Edit Monitoring Report	6	0%	06-Jul-16 A	19-Jul-16							
600349MR120	Incorporate Tech Edit Comments	8	0%	20-Jul-16	02-Aug-16							
600349MR130	MSA Internal Review of Monitoring Report	4	0%	03-Aug-16	09-Aug-16							
600349MR140	Incorporate MSA Comments	4	0%	10-Aug-16	16-Aug-16							
600349MR150	Submit Final Monitoring Report to DOE	1	0%	17-Aug-16	17-Aug-16							
D & H Horn 600-385 Monitoring Report												
600385MR110	Tech Edit Monitoring Report	0	100%	27-Jun-16 A	06-Jul-16 A							
600385MR120	Incorporate Tech Edit Comments	0	100%	06-Jul-16 A	06-Jul-16 A							
600385MR130	MSA Internal Review of Monitoring Report	1	0%	06-Jul-16 A	11-Jul-16							
600385MR140	Incorporate MSA Comments	4	0%	12-Jul-16	18-Jul-16							
600385MR150	Submit Final Monitoring Report to DOE	1	0%	19-Jul-16	19-Jul-16							

◆ Milestone ■ % Complete
 ■ Actual Work ■ Remaining Work
 ■ Actual Critical ■ Critical Remaining Work

UMM Schedule
 2 of 2

Print date: 13-Jul-16. Data date: 11-Jul-16. TASK filters: POW Format UMM.

Attachment 6

From: McCurley, Clay D
Sent: Monday, June 13, 2016 2:48 PM
To: ^WCH Document Control
Subject: Approval to Re-use Gravel from CTA at North End of Pit 6 and Waste Site 300-288:2

Folks. Please chron this email as DOE and regulatory approval to transport gravel from the Container Transfer Area (CTA) at the north end of Pit 6 to the ERDF for re-use there. Let me know which chron number is selected. Thanks. Contact me if you have any questions. Clay

From: Guercia, Rudolph F (Rudy) [mailto:rudolph.guercia@rl.doe.gov]
Sent: Monday, June 13, 2016 1:53 PM
To: McCurley, Clay D
Cc: Robertson, Owen C
Subject: RE: Closure of CTA being used for Waste Site 300-288:2

I have no objection to shipping it; you should contact ERDF for receipt acceptance

R. F. Guercia, Field Engineering
US Dept. of Energy, Richland Operations Office
(509) 376-5494

From: McCurley, Clay D [mailto:Clay.McCurley@wch-rcc.com]
Sent: Monday, June 13, 2016 9:29 AM
To: Guercia, Rudolph F (Rudy) <rudolph.guercia@rl.doe.gov>
Subject: FW: Closure of CTA being used for Waste Site 300-288:2

Rudy. If you're back at work, please respond to this email confirming DOE's approval to haul the gravel from the CTA at the north end of Pit 6 to the ERDF and re-use it there. Thanks. Clay

From: Simes, Benjamin [mailto:Simes.Benjamin@epa.gov]
Sent: Thursday, June 02, 2016 6:54 AM
To: McCurley, Clay D
Cc: Guercia, Rudolph F
Subject: RE: Closure of CTA being used for Waste Site 300-288:2

Clay,

Yes, EPA approves the approach.

Thanks,

Benjamin Simes, CHMM
US EPA, OLEM
Federal Facilities Restoration and Reuse Office
202-564-0527 D
571-302-6189 C
703-603-0043 F

From: McCurley, Clay D [<mailto:Clay.McCurley@wch-rcc.com>]
Sent: Thursday, June 02, 2016 9:15 AM
To: Simes, Benjamin <Simes.Benjamin@epa.gov>
Subject: RE: Closure of CTA being used for Waste Site 300-288:2

So, does EPA approve of this approach?

From: McCurley, Clay D
Sent: Wednesday, June 01, 2016 11:43 AM
To: 'Simes, Benjamin'
Subject: RE: Closure of CTA being used for Waste Site 300-288:2

Physically walk the site and visually inspect the soil for stains with an oily appearance. Soil stains are common in areas with use of heavy equipment (usually hydraulic leaks). Scoop up those stained soil and place in ERDF can for disposal at ERDF.

From: Simes, Benjamin [<mailto:Simes.Benjamin@epa.gov>]
Sent: Wednesday, June 01, 2016 11:30 AM
To: McCurley, Clay D
Cc: Guercia, Rudolph F
Subject: RE: Closure of CTA being used for Waste Site 300-288:2

Clay,

You have approval of this approach with one more response. Please describe what "cleaned up any stains of petroleum products" means.

Thanks,

Benjamin Simes, CHMM
US EPA, OLEM
Federal Facilities Restoration and Reuse Office
202-564-0527 D
571-302-6189 C
703-603-0043 F

From: McCurley, Clay D [<mailto:Clay.McCurley@wch-rcc.com>]
Sent: Wednesday, June 01, 2016 2:14 PM
To: Simes, Benjamin <Simes.Benjamin@epa.gov>
Cc: Guercia, Rudolph F <rudolph.guercia@rl.doe.gov>
Subject: RE: Closure of CTA being used for Waste Site 300-288:2

Ben. We expect to be finished excavating the 300-288:2 waste site soon and will need to close out the CTA that we established at the north end of Pit 6 to support those operations. Attached is a drawing of the CTA that indicates the portion (see shaded area) we installed. This will be the portion we remove (to a depth of approximately 12") and transport to the ERDF for use as needed there.

In the past, to close out CTAs, we normally conduct a visual inspection, clean up any stains of petroleum products, and perform radiological surveys using GPERs of the CTA (prior to removal). As with other CTAs, we have no reason to believe this CTA contains contaminants above cleanup limits. With the stains cleaned up and the GPERs survey(s) showing no contamination, we normally request and receive DOE and regulatory agency approval to re-use the gravel for beneficial purposes elsewhere on the Hanford site.

This is what will be done here as well. When we've completed excavating at 300-288:2 and the CTA is empty of equipment, I will conduct a visual inspection and have any petroleum stains cleaned up. We will also perform a GPERS survey to document no radiological contamination. This information will be provided to DOE and you and your approvals will be requested to re-use the material at the ERDF (in lieu of disposal).

Hope this helps. Clay

From: Simes, Benjamin [<mailto:Simes.Benjamin@epa.gov>]
Sent: Wednesday, June 01, 2016 7:22 AM
To: McCurley, Clay D
Cc: Guercia, Rudolph F
Subject: RE: Closure of CTA being used for Waste Site 300-288:2

Clay,

Can you please provide me with what exactly will be done in a small write-up, I am now confused. Please, identify the exact boundaries of excavation and gravel removal, including what sampling will be done.

Thanks,

Benjamin Simes, CHMM
US EPA, OLEM
Federal Facilities Restoration and Reuse Office
202-564-0527 D
571-302-6189 C
703-603-0043 F

From: McCurley, Clay D [<mailto:Clay.McCurley@wch-rcc.com>]
Sent: Wednesday, June 01, 2016 9:43 AM
To: Simes, Benjamin <Simes.Benjamin@epa.gov>
Cc: Guercia, Rudolph F <rudolph.guercia@rl.doe.gov>
Subject: RE: Closure of CTA being used for Waste Site 300-288:2

Oh, BTW, I forgot to mention that, after visual and GPERS, we'll be removing gravel to approximately 12" depth from the CTA at the north end of Pit 6.

From: McCurley, Clay D
Sent: Wednesday, June 01, 2016 6:33 AM
To: 'Simes, Benjamin'
Subject: FW: Closure of CTA being used for Waste Site 300-288:2

Ben. Rudy's on vacation this week. For some reason or another he answers his phone when I call him (509) 539-0459 and he told me he approves of this but was not in a position to respond via email (since he's at home). So I'm willing to proceed on a verbal from Rudy. I checked with Dan Saueressig to make sure he actually got agreement(s) from Chris Guzzetti and/or Laura Buelow and that he had logged these into the AR. Dan said he did (see below) so I need to go dig through the Meeting Minutes of the UMMs. As soon as I find one or two agreements from Chris or Laura I'll send you copies. We have staffing decisions (that we need to make this week) based on what we do with this gravel so we would like to know ASAP if EPA approves of this.

Clay

From: Saueressig, Daniel [<mailto:dgsauere@Bechtel.com>]
Sent: Wednesday, June 01, 2016 6:00 AM

To: McCurley, Clay D
Subject: RE: Closure of CTA being used for Waste Site 300-288:2

You'll have to search that Excel file Karl maintains. I definitely got an agreement from Guzzetti to re-use the K gravel (potentially 2 agreements), and I think I had approval from Laura to re-use the gravel as backfill for C-7.

Dan Saueressig
WTP Sr. Environmental Engineer
Regulatory Compliance and Waste Management
509-371-2918

From: McCurley, Clay D [<mailto:Clay.McCurley@wch-rcc.com>]
Sent: Tuesday, May 31, 2016 3:08 PM
To: Saueressig, Daniel <dgsauere@Bechtel.com>
Subject: FW: Closure of CTA being used for Waste Site 300-288:2 [*EXTERNAL*]

Hey Bud. I need to jog your memory. I'm trying to get Ben to approve letting us re-use gravel from our CTA in the 300 Area. In the attached correspondence with Artie and Wanda, you indicated that your request was "consistent with how EPA approved closure of the 100-K and B CTAs". Do you remember if you ever choned an agreement with EPA for us to re-use the gravel from 100-B or 100-K. I'd like to send him something that Laura Buelow or Chris Guzzetti approved (rather than Ecology).

From: Simes, Benjamin [<mailto:Simes.Benjamin@epa.gov>]
Sent: Tuesday, May 31, 2016 11:25 AM
To: McCurley, Clay D; Guercia, Rudolph F
Cc: Elkins, Dan A; Eng, Shane L
Subject: RE: Closure of CTA being used for Waste Site 300-288:2

Clay,

The attachment is for a state-lead site, in the past we have done GPERS then remove the top six inches of soil. I will get with Rudy to discuss this.

Thanks,

Benjamin Simes, CHMM
US EPA, OLEM
Federal Facilities Restoration and Reuse Office
202-564-0527 D
571-302-6189 C
703-603-0043 F

From: McCurley, Clay D [<mailto:Clay.McCurley@wch-rcc.com>]
Sent: Tuesday, May 31, 2016 1:56 PM
To: Guercia, Rudolph F <rudolph.guercia@rl.doe.gov>; Simes, Benjamin <Simes.Benjamin@epa.gov>
Cc: Elkins, Dan A <dan.elkins@wch-rcc.com>; Eng, Shane L <sleng@wch-rcc.com>
Subject: Closure of CTA being used for Waste Site 300-288:2

Rudy/Ben. Excavation activities will soon be finished at the 300-288:2 waste site. For the Container Transfer Area (CTA) at the north end of Pit 6 (see attached PowerPoint file) we are requesting approval to treat this CTA as we have treated other CTAs on this project (see CCN 177566 attached). The CTA would first be visually verified free of stains (e.g., petroleum products) and then radiologically surveyed using GPERS. If there are no stains and the GPERS survey indicates no contamination, then we would excavate the gravel and transport it in super dumps (not ERDF cans) to the ERDF for reuse (not disposal).

Please respond to this email that you approve of this. Let me know if you have any questions.

Thanks. Clay

Attachment 7

^WCH Document Control

183215

From: McCurley, Clay D
Sent: Tuesday, June 21, 2016 12:59 PM
To: ^WCH Document Control
Subject: CTA at north end of Waste Site 300-288:2

Folks. Please chron this email string as DOE and EPA approval to transport the gravel from the Container Transfer Area (CTA) at the north end of Waste Site 300-288:2 (Pit 6) to the ERDF for re-use there as needed. Let me know which number is assigned. Contact me if you have any questions. Thanks. Clay

From: Simes, Benjamin [<mailto:Simes.Benjamin@epa.gov>]
Sent: Tuesday, June 21, 2016 9:42 AM
To: Guercia, Rudolph F; McCurley, Clay D
Cc: Ison, Eric G
Subject: RE: CTA at north end of Waste Site 300-288:2

No issues.

Thanks,

Benjamin Simes, CHMM
US EPA, OLEM
Federal Facilities Restoration and Reuse Office
202-564-0527 D
571-302-6189 C
703-603-0043 F

From: Guercia, Rudolph F (Rudy) [<mailto:rudolph.guercia@rl.doe.gov>]
Sent: Monday, June 20, 2016 12:28 PM
To: McCurley, Clay D <Clay.McCurley@wch-rcc.com>; Simes, Benjamin <Simes.Benjamin@epa.gov>
Cc: Ison, Eric G <egison@wch-rcc.com>
Subject: RE: CTA at north end of Waste Site 300-288:2

I walked it down this morning at daybreak. It looks very nice.

Thanks

R. F. Guercia, Field Engineering
US Dept. of Energy, Richland Operations Office
(509) 376-5494

From: McCurley, Clay D [<mailto:Clay.McCurley@wch-rcc.com>]
Sent: Monday, June 20, 2016 9:25 AM
To: Guercia, Rudolph F (Rudy) <rudolph.guercia@rl.doe.gov>; 'Simes, Benjamin' <Simes.Benjamin@epa.gov>
Cc: Ison, Eric G <egison@wch-rcc.com>
Subject: CTA at north end of Waste Site 300-288:2

Rudy/Ben. We finished using the container transfer area (CTA) at the north end of the 300-288:2 waste site and last week and I walked down the area looking for stains/anomalies. I did not observe any so I took photographs (attached). We also finished a

radiological survey of the area using GPERS and found no contamination. Maps presenting the beta and gamma measurements are attached. As a result, we intend to use dump trucks to transfer the gravel ERDF for re-use as needed there. Please let me know if you have any concerns.

Thanks. Clay